# DOCUMENT RESUME

ED 197 916 RC 012 511

| | |
|---|---|
| AUTHOR | Schoepfle, G. Mark; And Others |
| TITLE | A Study of Navajo Perceptions of the Impact of Environmental Changes Relating to Energy Resource Development. Final Report. |
| INSTITUTION | Navajo Community Coll. Shiprock, N.Mex. |
| SPONS AGENCY | Environmental Protection Agency, Washington, D.C. Office of Research and Development. |
| PUB DATE | 25 May 79 |
| CONTRACT | 68-01-3868 |
| NOTE | 133p. |
| EDRS PRICE | MF01/PC06 Plus Postage. |
| DESCRIPTORS | *American Indian Culture; American Indian Reservations; American Indians; Cultural Context; Decision Making; *Economic Development; Energy; Ethnography; Extended Family; Federal Indian Relationship; Livestock; Models; Natural Resources; *Perception; *Quality of Life; Relocation; *Reservation American Indians; Rural Development; Tribes; Values |
| IDENTIFIERS | *Energy Development; *Navajo (Nation); Navajo Reservation; Social Costs; Uranium Mining |

ABSTRACT

Ethnographic interview methods were utilized to determine the social costs of energy development (i.e. uranium mining) and the mitigation of these costs. Determination was made from the viewpoint of the Navajos in the Burnhams Chapter (a geopolitical unit) in Western New Mexico; they anticipated four major costs (losses) to their present way of life: emotional and economic support of the extended family, livestock and land, security made possible through raising livestock in one place, and activities upon which their cognitive principles and means of teaching these principles are based. Burnhams residents have formulated tradeoffs, in the form of mitigation of these costs, and these tradeoffs have been explicated through a linear decision model. The explicitness of both the costs and the tradeoffs by Burnhams residents was due in great part to their having witnessed the effects of energy development in the form of relocation upon Upper Fruitland residents (where open-ended interviews revealed intense feelings of material insecurity, loneliness, despair, frustrating idleness, and shame as well as increased illness, delinquency, poor housing conditions, and overcrowding). The methods used and results obtained should aid the Navajo Tribal government in talks with business and with the federal government and also in social planning with the Navajo people to mitigate the social costs. (Author/AN)

***********************************************************************
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
***********************************************************************

ED197916

# NAVAJO COMMUNITY COLLEGE

NOV 1980
ERIC/CRESS
RECEIVED

## OFFICE OF RESEARCH AND DEVELOPMENT

P.O. BOX 580 SHIPROCK, NEW MEXICO 87420

RC 012511

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
G.M. Schoepfle
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

FINAL REPORT

# A STUDY OF NAVAJO PERCEPTIONS OF THE IMPACT OF ENVIRONMENTAL CHANGES RELATING TO ENERGY RESOURCE DEVELOPMENT

by

G. Mark Schoepfle
Kenneth Y. Begishe
Rose T. Morgan
Johnny John
Henry Thomas
Philip Reno

with

Joanne Davis
Beverly Tso

Contract No. 68-01-3868

James Stemmle, Project Officer
Division of Research and Development
U.S. Environmental Protection Agency
Washington, D.C.

Navajo Community College
Shiprock Campus
Shiprock, New Mexico 87420

May 25, 1979

# ABSTRACT

Ethnographic interview methods were utilized to determine (A) the social costs of energy development and (B) the mitigation of these costs. Determination is made from the viewpoint of the Navajos who are to be most directly affected. Navajos in the Burnhams Chapter in Western New Mexico, were recorded in interview and public speech. They anticipate four major costs to their present way of life: (A) loss of emotional and economic support of the extended family, (B) loss of livestock and land, (C) the loss of security made possible through raising livestock, for subsistence, in one place, and (D) the loss of activities upon which their cognitive principles and means of teaching these principles are based. Burnhams residents have also formulated tradeoffs, in the form of mitigation of these costs, and these tradeoffs are explicated through a linear decision model. The model also represents the process by which extended family members reach consensus on the relative priorities of these tradeoffs. The explicitness of both these costs and tradeoffs by Burnhams residents is due in great part to their having witnessed the effects of energy development inthe form of relocation upon Upper Fruitland residents. Open-ended interviews with Upper Fruitland residents revealed intense feelings of material insecurity, loneliness, despair, frustrating idleness, and shame. Also indicated were increased sickness, delinquency, poor housing conditions and overcrowdedness. The ethnographic methods and the formal results are intended to aid the Tribal government in its negotiations with the Federal government and private corporations, and in its social planning with Navajos to mitigate these social costs.

# ACKNOWLEDGEMENTS

We are indebted to Jerrold E. Levy, Eric B. Henderson (University of Arizona); Michael L. Burton, Hugh Gladwin, Thomas Glenn, Joseph Jorgenson (University of California, Irvine); Thayer Scudder (California Institute of Technology); Oswald Werner, Judith A. Remington (Northwestern University); Klara B. Kelley (Larry Adcock & Assoc.); Ron Cummings, Gary Libecap, Ron Johnson, Allen V. Kneese (University of New Mexico); Peter Deswood, Ron Faich (Navajo Tribe Office of Planning); Harold Tso, Michael Willingham (Navajo Environmental Protection Commission); Pia Bungarten (Amherst College); Steve Plotkin (Congressional Committee on Technological Impact Assessment); and James Tutt (Navajo Community College - Shiprock) for their advice and assistance in lending direction and critique to the reports and project. They are not to be held responsible, however, for the contents or conclusions of this report.

# PREFACE

The following quotation is the conclusion of a speech given by an officer of the Burnhams Chapter. We feel that the remarks underscore both the doubts and insights of many Navajos toward the accelerating socioeconomic changes brought about by energy development. The points he makes stand for the social costs as the Navajos themselves see them. It is also a plea for careful consideration and for a commitment, on the part of the many governmental agencies concerned, to include the Navajos of all walks of life in the decisions which will affect them first and most severely.

## Nihí nihe'iina' yit'ihígi at'éego nihá bił béé dahoozingo
## (When the White Man Will Come to Understand Our Ways)

| | |
|---|---|
| Shoo! Ei biniinaa éí<br>t'aháloo hazhó'ó daaníílá<br>Danizindoo | "We see! Indeed, that is the reason<br>they hesitate."<br>They will come to realize. |
| Eila' biniinaa doo t'áá<br>hoosch'į' hidinéehda lá,<br>Danízindoo | "Indeed, that is the reason for<br>their not making a hasty move."<br>They will come to realize. |
| T'áála' ákǫ́ǫ́ nidabi'<br>diizhchį́į́lá<br>Danízindoo | "Indeed, they have been born at<br>this very place."<br>They will come to realize. |
| Bimásáníyę́ę áádóó bicheiyę́ę<br>t'áá akǫ́ǫ́ nidabi'<br>diizhchį́į́lá<br>Danízindoo | "Indeed, even their late grandmother<br>and grandfather have been<br>born at this very place."<br>They will come to realize. |
| Doola' nihí nidei'néhígi<br>át'éegola' doo naanídeinééhdalá<br>Danízindoo | "Indeed, they do not roam about as<br>we do, and they do not move from<br>place to place."<br>They will come to realize. |
| Bidibéla' éí bimá dóó<br>bizé'é dóó bimásáni<br>dóó bicheii danilíilá<br>Danízindoo | "Indeed, their sheep are like their<br>mother, father, grandmother, and<br>grandfather."<br>They will come to realize. |
| Akohgi át'éegola' bidibé<br>yaanitsídaakeeslá<br>Danízindoo | "Indeed, that is how they think<br>about their sheep."<br>They will come to realize. |
| Akǫ́ǫ́ deiyílk'id dóó<br>dahdaask'idígíila' t'áá<br>akót'éegola' yídaneesdinlá<br>Danízindoo | "Indeed, even those endless lonely<br>ridges they will have become attached<br>to."<br>They will come to realize. |
| Azhą́ąnee' t'óó halgai ndi,<br>dóó t'áadoo hólónida<br>ndi yídaneesdinlá,<br>Danízindoo | "Indeed, even though it seems barren<br>and lifeless they have become<br>attached to the land."<br>They will come to realize. |
| Akǫ́ǫ́ bił yá'ádahoot'ééh<br>lá yee nihaaídahoniizį́į́'go<br>Danízindoo | "Indeed, they really like to live<br>in this particular place. Now we<br>understand."<br>They will come to realize. |

# CONTENTS

0. INTRODUCTION AND SUMMARY
0.1. Background and Significance of the Study
0.1.1. The Tribal Dilemma: The Winners and losers in Energy Development
0.1.2. The Need for Social Impact Assessment
0.1.3. The Scope of the SIA
0.2. Method and Theory
0.2.1. Importance and Limitations of Ethnography
0.2.2. Ethnoscience Ethnographies
0.2.3. Stages of Actual Research
0.2.4. Summary of Research Results
0.2.4.1. The Real Costs
0.2.4.2. Demands for Tradeoffs

1. THE SITE
1.1. Burnhams
1.2. Sanostee
1.3. Red Rock (Red Valley)
1.4. Upper Fruitland
1.5. Shiprock
1.6. Navajo Agricultural Products Industry (NAPI) and the General Implications of Development

2. THE SOCAL COSTS OF ENERGY DEVELOPMENT TO TRADITIONAL NAVAJOS
2.1. The Costs of Relocation
2.1.1. Everyday Life: Progressing Together and Making a Living
2.1.1.1. Loss of Grazing Permit and the Means of Raising Sheep
2.1.1.2. Sheep
2.1.1.2.1. The Bonds of Kin and Neighbor
2.1.1.2.2. "Progressing Together:" An Alternative and Supplement to the Market
2.1.1.2.3. Sheep for Raising Children and Thinking Ahead

2.1.2. Disruption of Kin Life
2.2. The Cost of Energy Development Without Relocation
2.2.1. Quality of Job
2.2.2. Divisibility of Land

ANTICIPATED LOSSES: "WE HAVE SEEN WHAT HAS HAPPENED TO OTHERS."
3.1. Background Features of Fruitland Location
3.1.1. No Warning
3.1.2. Intimidation
3.1.3. Vague Exhortations
3.1.4. Broken Promises
3.1.5. No Knowledge of Present Status
3.2. Reactions to Relocation: The Effects
3.2.1. Idleness
3.2.2. Poor Housing
3.2.3. Falling Standard of Living
3.2.4. Failing Health
3.2.5. Shame
3.2.7. Delinquency
3.2.7. Loss of Internal Leadership
3.3. The Third Generation
3.4. Discussion

4. THE MITIGATION OF SOCIAL COSTS: THE NAVAJO DECISION PROCESS
4.1. Prioritizing What is Valuable to a Way of Life
4.1.1. Will the Company Make Demands?
4.1.2. Will a Definite Place be Set Aside?
4.1.3. Will we be Able to Relocate Together?
4.1.4. Will We Relocate Close By and Out of the Way of the Mine?
4.1.5. Will the Land be Reclaimed?
4.1.6. Will We be Allowed to Keep our Sheep Permit?
4.1.7. Will Sacred Places be Preserved?
4.1.8. Will Someone Look After the Livestock: Will Fencing be Set Aside for the Livestock?

4.1.9. Recapitulation: If the Demands are not Met
4.1.9.1. Resistance
4.1.9.2. Reparations: We Too Can Make Demands
4.2. Options Other Than Negotiation Toward Mitigation of Social Costs
4.2.1. Resistance
4.2.2. Capitulation
4.2.3. Ready Acceptance of Energy Development
4.2.3.1. Education
4.2.3.2. Well-Paying Job
4.2.3.3. Household and Family
4.2.3.4. Magnitude of Grazing Permit Inheritance
4.2.3.5. Likelihood of Grazing Permit Inheritance
4.2.3.6. Responsibility Toward Parents and Older Relatives

5. THE SOCIAL COMPLEXITY OF DECISION MAKING: THE VIEW OF THE NAAT'ÁANII, OR HEADMAN
5.1. A Composite Decision Model of Social Complexity
5.2. Validity and Psychological Reality of the Model
5.2.1. Operational Assumptions
5.2.2. Hypothesis: Dropping Out v.s. "Thinking Ahead"
5.2.3. Sampling
5.3. Factors of Indeterminacy Outside the Model
5.3.1. The "Bandwagon Effect"
5.3.2. Further Indeterminacy: Factionalism

6. DISCUSSION: MODERNISM AND THINKING AHEAD FOR THE FUTURE
6.1. The Good Life
6.2. Options in the Real World: The Cattleman's Lifestyle and the Inheritance of Land
6.2.1. Traditional Inheritance of Land and Livestock: Past and Present
6.2.2. Present-Day Variability: Fragmented vs. Whole Permit Inheritance

## 7. CONCLUSUION:

PROPOSED RESOLUTION TO THE NAVAJO ENVIRONMENTAL PROTECTION COMMISSION OF THE NAVAJO TRIBAL COUNCIL: THE INSTITUTION AND IMPLEMENTATION OF SOCIAL IMPACT ASSESSMENT AND PLANNING FOR NAVAJO COMMUNITIES IMMEDIATELY AFFECTED BY ENERGY DEVELOPMENT AND ECONOMIC CHANGE.

# 0. INTRODUCTION AND SUMMARY

## 0.1. Background and Significance of the Study

The Navajo Nation, with a population of nearly 140,000, is located on vast reserves of coal and uranium, and is also the site of ongoing agribusiness development. Covering an area approximately the size of West Virginia (i.e. roughtly 25,000 square miles), it includes portions of Arizona, Utah, and New Mexico

Historically, the Navajo people assumed a pastoral life shortly after contact with the Spanish, and maintained this along with some largely dry-land farming. Since the Turn of the Century, this primarily subsistence-based economy has been augmented--and in some ways disrupted--by wage labor and education. Today, many Navajos maintain a complex and varied mix of pastoral subsistence-based economy and wage labor. Moreover, a combination of increasing population pressure on a limited land base and low educational achievement have forced most Navajo households to rely increasingly on low-paying and temporary wage labor and toward outright dependence on welfare.

The Navajo Tribal government is well aware of this increasingly dependent welfare-based economy, and has embarked on an economic plan in which energy resource development is to lay the base for agricultural expansion. Energy development is further justified in two principal ways by the Tribe:

A. The signing of previous lease agreements forces at least some compliance with energy company demands.

B. The income generated from such development will aid the Navajo Nation as a whole to become less dependent on the present trust relationship with the Federal Government, particularly the Bureau of Indian Affairs (BIA).

Energy resource development on Navajo land includes coal strip-mining and electric power generation, uranium shaft mining and nearby milling, oil and natural gas drilling and extraction, and various supplemental and service activities. Navajo resources are a significant portion of national energy reserves, paricularly of uranium, and of accessible low sulfur coal within economic reach of Soutwest and West Coast urban populations, and industrial centers.

The Navajo Tribe is a member of the Council of Energy Resource Tribes (CERT), which, according to some estimates, has from 17% to 30% of all accessible Western coal reserves and 50% or more of United States uranium reserves. According to the Senate Committee of Interior and Insular Affairs by the Comptroller General of the United States (March 31, 1976),

> Mineral resources such as coal, oil and gas have been located on Indian reservations. Although the exact amounts of such resources are unknown, the U.S. Geological Survey (USGS), Department of the Interior, estimated that oil and gas resources are on 40 reservations in 15 states. These reservations contain about 19.1 million acres of land. Oil resources on these land, as of November 1973, were estimated at about 4.4. billion barrels and gas resources at about 14.5 trillion cubic feet. USGS estimated Indian oil and gas reserves to amount to about 3 percent of the Nation's total reserves.
>
> USGS also estimated that 33 reservations in 11 states, containing a total of 34.5 million acres, have sizable coal reserves. As of January 1975, USGS estimated these lands contain from 100 to 200 billion tons of identified coal resources of 1,581 billion tons.

An October 1975 Federal Trade Commission staff report, "Minerals Leasing on Indian Lands," "...reported that Indian Lands may contain more than one-tenth of the Nation's currently minable coal reserves."

Extraction of these resources provides a major share of Navajo government revenues (Table I) and thus indirectly of Navajo employment. It may also provide for an increasing share of direct employment in production in Navajo Country (Benson, 1976).

### 0.1.1. The Tribal Dilemma: The Winners and Losers in Energy Development

Whether the Tribe has embarked upon a course of energy development in order to enhance its drive toward self determination or as gradual capitulation to outside interests, it matters little to many of the individual Navajo families directly affected by this development. This is because traditional ways

## TABLE I

## TRIBAL REVENUES AND PERCENTS DERIVED FROM MINERAL LEASING

| | Mineral Revenues | Minerals as % of Total Income |
|---|---|---|
| 1958 | $30,629,792 | 93% |
| 1959 | 19,540,713 | 85% |
| 1960 | 18,536,890 | 79% |
| 1961 | 20,058,220 | 82% |
| 1962 | 16,942,904 | 77% |
| 1963 | 18,036,182 | 76% |
| 1964 | 34,030,227 | 88% |
| 1965 | 17,960,805 | 77% |
| 1966 | 12,841,958 | 65% |
| 1967 | 13,253,804 | 62% |
| 1968 | 16,333,341 | 69% |
| 1969 | 16,526,743 | 62% |
| 1970 | 19,043,792 | 42% |
| 1971 | 26,448,508 | 51% |
| 1972 | 19,561,915 | 41% |
| 1973 | 26,316,176 | 28% |
| 1974 | 20,583,984 | 49% |
| 1975 | 27,549,392 | 70% |

of making a living will be either severely disrupted or destroyed altogether by strip mining and the relocation which follows.

Other activities which may involve relocation are strip mining on Black Mesa, South of Page, Arizona; expansion of agribusiness concerns near Farmington, New Mexico; expanding the boundaries of the Hopi Reservation in the Joint Use Area; strip mining near Gallup, New Mexico; and a host of smaller develoments. While actual estimates are not yet available, thousands of Navajos may be affected by relocation ultimately. Other development, particularly in Uranium mining, will not result in massive relocation, but may have grave impact on those Navajos in the vicinity of the projects.

The Navajo Tribe and local communities have voiced their opposition to relocation, and have predicted to Congress the devastation of lives, particularly for the older Navajos. In response, efforts began which may permit Navajos over 50 years of age to live out their time in their homes and with at least a measure of their accustomed ways.

At the same time the Navajos residing on proposed site expansion of the Navajo Indian Irrigation Project (NIIP) land near Huerfano, in the Checkerboard area, mobilized to oppose relocation. Peter MacDonald, Chairman of the Navajo Tribal Council, meeting with the people affected, indicated that he would favor their staying on their land and farming it when the NIIP water arrived.

The outcomes of the strip mining resistance and of relocation in these areas are still not definite, especially with respect to the scheduling of actual mining operations. However, what is certain is that if such political resistance can be expected to lend serious uncertainty to National energy development, with its vast electric power networks already established (Nagel, 1978), then at least as much uncertainty can be expected to confront the Navajo Tribal government. On one hand, then, the Tribe sees itself as receiving increasing pressure from an alliance of emerging federal and multi-national corporate energy development. On the other hand, it sees itself as hindered in its efforts toward self-determination by alienation from the Navajo kin-based communities it represents. The Tribe thus faces a dual danger: to be cut adrift from the people it strives to govern and represent on one hand, and to be buffeted about through pressures for development by corporations and governmental agencies on the other.

### 0.1.2. The Need for Social Impact

What emerges as a steadily more-pressing need is for social planning and for the closely-related social impact assessment. Yet, the meeting of this multiplex need has had one of the most consistent histories of failure. As Scudder (1973) has pointed out, time after time, throughout the developing world:

15

A. Planning and development agencies have underestimated the many social, psychological and economic effects which relocation has had on subsistence-based people.

B. The economic well-being of these people has declined despite the availability of jobs.

C. A host of social ills such as mental illness, alcoholism, and sickness take root in the collapse of traditional social organization, leadership, and of those aspects of life perceived as worth living.

D. Responses to these ills, often from a benevolent paternal governing organization, have been in the form of reaction to unanticipated crisis, and as such often constitute the mobilization of too little too late.

E. The cost of these responses, despite their insufficiency for the problem at hand, are often so great as to be almost impossible to justify to those rendering an account of budgets

F. Relocatees and their hosts suffer from each other, as the former experience shame and exclusion and the latter watch their land dwindle.

G. The old traditionals suffer the most, but the young often fare little better as their hopes for jobs and better life dwindle.

H. Expectations by all for better jobs are disappointed as better-trained outsiders take over.

I. Finally, once the mistakes have been made by the agencies responsible for relocation, further immediate planning which would include input from relocatees is difficult. This is because the relocatees' reactions to psychological trauma manifest themselves in the form of cognitive and psychological partitioning. That is, they simply refuse to think about their new life. As a result there is considerable time lag before further planning can be done.

Unhappily the findings of the following report lend not a single exception to what appears to be a worldwide trend in economic development: the nation or region, on the whole, may benefit from development while those directly affected will lose, and have to pay inordinately for the rest.

The problem of the Tribe and of social impact assessment in general is thus one of determining equity. That is, a means is needed for the Tribe, representing the totality of gainers from resource development, to compensate the losers. In order to implement this equity consideration, a value must be placed on losses (damages) suffered by the losers, and on gains realized by the Tribe as a whole, the winners. Gains realized by the Tribe as a whole can be quantified by measures such as Net National Domestic Tribal Product, per capita income, and other socioeconomic indicators. Extensive study of such measurement has been made by Tribal economic planners.

The losses, however, are not so easy to quantify, and as a result, compensation for losses, and support for the means for local recovery from stripmining, have been computed arbitrarily. The results of this arbitrariness have been mentioned above and reviewed by Scudder (1973).

Hopefully the systematic establishment of the compensation, or tradeoff, would not only provide the Community of Burnhams, or any other such community, with the means of obtaining equity. It would also provide the Tribal Government with the means of representing these people and of bargaining with outside interests on their behalf.

At this time, however, much remains to be done. Now, the Tribe follows guidelines exported to them from elsewhere in the United States. It compensates a household family only for certain assets which the family must give up when the land is being strip mined. The major such asset is the grazing permit. Other assets include hogans, or small houses, sheds, corrals, and the like. In the case of families displaced by the Irrigation Project, compensation was provided in the form of a cash payment of $300 per sheep unit (i.e. individual head of sheep) and a house was provided on a plot of ground of about an acre.

To the traditional Navajos directly affected by development, this reimbursement is insufficient. Insufficiency rests not on greed or vindictiveness but on the fact that there is no compensation for the loss of a useful way of life. These people will be cut adrift without the education and skills needed to find a new role in life on their own. Uselessness leads to personal decay and will affect the whole family in a similar way.

### 0.1.3. The Scope of the SIA

A significant part of the difficulty in assessing accurately these adverse effects is the inapplicability of the assessment guidelines themselves. That is, while considerable knowledge and background can be obtained from testimony and other statements by those affected (Gamble, 1978), and constitutes the backbone of the social impact assessment (Finsterbusch, 1977), constraints of time and cost, and lack of standards of quality (Watkins, 1977) limit efforts designed to include such statements systematically in an assessment.

The purpose of this report is to present in-depth the range of social costs, tradeoffs, and benefits from the view of the Navajo people themselves, and in the terms they themselves use to describe these. At the same time the methods of eliciting and analyzing these will be discussed. By such discussion, the applicability of ethnographic methods to a variety of populations will emerge.

## 0.2. Method and Theory

### 0.2.1. The Importance and Limitations of Ethnography

Ethnography, an approach used most commonly by anthropologists, is a method by which a single researcher (or small team of researchers) describes the culture, or total way of life, of a relatively small, well-defined group of people. The ethnographer usually relies on a combination of interview and observation, referred to as participant observation, to obtain this description. Because of the methods and the smallness of the social groups studied, it has been customary for an ethnographer to spend at least one year, and as many as five or six, to complete a study. Moreover, the description is largely a structured narrative and often not presentable in quantified or tabular form.

Ethnographers have often been enlisted by agents of economic development and social change because of their intricate knowledge of a community's social life. However, their role has been relatively small because of the limitations inherent in the ethnographic approach. That is:

A. The variability among individuals within a cultural group cannot be assessed accurately (Garrison and Schoepfle, 1977).

B. It is often difficult to reduce an ethnography to a series of easily testable hypotheses.

C. The time required for an ethnography is too long to be of use to other approaches, unless the impacted people are so culturally different from the change agents that such time expenditure is recognized as mandatory.

Finsterbusch (1977) summarizes the prevailing view of the effects of time limitations on the applicability of ethnography.

> Ethnographic studies...should definitely have a larger role in SIA's. The Ethnographer combines interviewing with field observations and attempts to know a community inside and out. Most SIA's cannot afford such complete knowledge of the community, however, especially if an ethnographic study can only moderately improve the accuracy of estimates by other means. On the other hand, most SIA's suffer from too little immerson in the potentially impacted community and fail as a result to secure a sure grasp of its inner workings.

(P. 9). One unfortunate further result is that the ethnographic description, as a narrative, is often related to more formal studies only anectdotally, when it is used at all.

Moreover, some anthropologists have shifted to more formal, survey questionnaire-oriented methods, while others have assumed an advocacy role, on the part of affected communities, against the assumptions central to some of the models of economists and social planners. The economists and planners, for their part, ignore the anthropologists because they find it difficult to respond to these challenges (Gladwin, 1978).

### 0.2.2. Ethnoscience Ethnographies

While this study by no means provides a final solution to these issues of ethnography's limitations, we are confident that the contributions ethnography has to offer can be made useful to policy analysis and planning _if_ the results are first rendered more digestable to other social scientists engaged in social impact analysis. Moreover, it can be done within less than one year. Such enhanced usablilty is achieved in this study by:

A. restricting the ethnographic method to primary reliance on systematic interviewing;

B. defining "culture" as the knowledge an individual must have to adapt to the social environment;

C. restricting cultural knowledge to that knowledge which is verbalized by an informant.

These restrictions have been referred to as ethnoscience ethnography (Werner et al, m.s. and Spradley & McCurdy, 1972).

By restricting the domain to interview-elicited cultural knowledge, the following specific methods of elicitation and analysis were used:

A. "Folk" definitions: i.e. key words or phrases which an individual uses with additional sentences (i.e. atrributes) elicited to provide more information about the terms or phrase. These are presented under the heading "definition" in this study.

B. "Folk" taxonomies: i.e. classifications of terms elicited in "A" such that the terms X——— Y can be read as "Y is a kind of X." These are presented as tree diagrams in this study.

C. Decision models: i.e. sequences of thought in which people assess conditions they perceive in their environment, determine which conditions are important, and then decide upon ways of coping with these conditions. In this study they are derived from the folk definitions and taxonomies, and represent the decisions Navajos themselves have made.

Anthropologists have applied decision models in the study of agricultural behavior (Gladwin, 1978), choices in economic behavior (Quinn, 1977), and to daily activities among the Navajo (Topper, 1972). These are especially important here because they relate definitions and classifications to predicting behavior. The bridge between statement and behavior is possible because:

A. Decision modeling relates taxonomy to sequence (i.e. "X and then Y").

B. Decision models describe more clearly relationships of implication (i.e. "If X then Y") to cause-effect.

C. The sequential relationships in these models allow a simple and elegant way to prioritize various conditions considered in making decisions. Prioritization is achieved simply by determining which factors are considered in what order and then (from the definitions and attributes) determining why.

D. The Decision model's combination of semantics, and behavioral options provides a relatively formal theoretical and methodological bridge between the mutually foreign categories of Navajos and the various non-Navajo change agents and government organizations. While much is left to be desired in such formalization it is a distinct improvement over a narrative statement.

This model is considered cognitive because it is generated not from the researchers but from the systematic elicitation of terms, definitions and classifications which the Navajo people themselves used. Careful reliance on these is not always stressed by some researchers. Such failure to stress is not serious if the terms used to construct it are shared by planner and client. However, when cultures of the two are not similar, the system either breaks down, or a small number of individuals from the client population are chosen who can relate to the planning methods. These individuals are often more acculturated than those directly affected by development and sometimes are accused of not representing the actual target population.

### 0.2.3. The Stages of Actual Research

The research project included a total of 8 staff, seven of whom actively participated in the interviewing process. The total number of Navajos interviewed was 128. Of the total from all groups, 88 out of 128 Navajos are 50 years or older. This emphasis on the 50+ age group causes a bias toward describing traditional values in this research. We considered this bias proper, however, in view of the relative neglect this age sector has received in economic development and planning.

Interview and analysis proceeded according to the following steps, in the following order:

A. Open-ended interviews: General interviews of up to 45 minutes in length were recorded and transcribed in Navajo. These were then translated into English, term by term.

B. Elicitation of Folk Definitions: Terms from "A" were chosen for further explanation by informants. Some definitions were complex and broken down in later analysis.

C. Generation of taxonomies from definitions: This was done mostly from interview texts, after the interview was completed.

D. Verification of taxonomies: This was achieved by presenting them, in tree-diagram form, at meetings in the Burnhams Chapter. Comments and corrections were then included in subsequent analysis.

E. Generation of Decision Model I: This was achieved by combining taxonomies, definitions and interview narrative of actual events.

F. Verification of Model I: This was achieved by presentation to 15 individuals in the Burnhams-Upper Fruitland areas.

G. Generation of Decision Model II: This was achieved from input from "F."

H. Verification of Model II: This was achieved again through open-ended interviews with individuals from various age groups. Questions asked concerned plans for future livelihood and work.

In most cases non-structured interviews and memorized schedules were used instead of survey questionnaires. The reasons were:

A. The traditional Navajos in the area remarked that they associated written schedules--even when filled out by staff--with BIA forms and other similar impositions. In fact, they had complained about other research projects in the area because of the impersonal style of the questionnaires.

B. The random sampling needed to maximize the advantages of survey questionnaire is difficult to achieve because of some Navajos' seasonal summer transhumance with sheep herds. This transhumance caused difficulty in locating household heads. (Summer was the time expected to initiate this phase of interviewing).

C. Tribal officials with whom we met agreed that significant information could be achieved without resorting to these methods. This is in keeping with the lower expectations on rigor often associated with the social impact assessment (Finsterbusch, 1977).

The important result of not using the interview schedule is that if individual respondents forget to mention something, it is less likely that they will be prompted to mention it than with the uniform stimulus of an interview schedule. Thus, the percentage tallies in later sections (except for the validation of the Decision Model II), of stated opinions and preferences may be much lower than had they been uniformly elicited.

Steps "A" - "F" were performed primarily in Burnhams. Subsequent verification and validation ("G" - "H") involved an expansion of population size to the total of 128. This expansion also included a geographic expansion into Upper Fruitland, Sanostee, Shiprock and Hogback, and with this came increased variability in knowledge. Hence the generation of Decision Model II (Step "G").

### 0.2.4. Summary of Research Results

The people of Burnhams classified the principal costs as loss of livestock and land, loss of the emotional and economic support of the extended family, and the loss of security in life made possible by living in one place.

Livestock, and the grazing permit, were described as most important instrumentalities to their way of life. Livestock, and particularly sheep, tend to be considered both as short-term and long-term security, even where wage labor is possible, because of the instability of the labor market. Thus,

A. Sheep are the means of participating actively in the wider market through sale of meat, wool and wool products.

B. They are the means of sidestepping the market (and its high prices) through informal exchange of meat among families.

C. Ceremonial and emotional exchanges were reinforced through sheep.

D. Finally, an individual's status in the community, and thus his or her right to speak publicly, to influence others, and to respect, is dependent on the number of sheep possessed.

Thus, the sale of grazing permits is resisted staunchly by the more traditional segments of the community.

The importance of the extended family in Navajo cultural and social life is best exemplified by the fact that it reinforces the ethics of equality and harmony. Only when individuals and families "progress together" are the consensus-based decisions possible which are vital to social life. With relocation it is feared that individuals who ordinarily gained considerable emotional support from the close family ties would be emotionally and spatially isolated.

Security includes not only the immediate economic considerations but also a more abstract ability to "think ahead." Such thinking includes:

A. deriving philosophical principles from the proper care of sheep;
B. proper raising of children;
C. providing for the future of children and grandchildren through proper planning and living.

Without sheep and land, in other words, these Navajos lose the bases for their cognitive and psychological principles and teaching.

### 0.2.4.1. The Real Costs

The people of Burnhams could establish the reality of these fears empirically through a review of what happened to relocatees in Upper Fruitland, a Chapter adjacent to theirs. Interviews with Navajos there brought forth feelings of idleness, material insecurity, loneliness, despair, and shame. Effects of these in turn included increased sickness, delinquency, poor adjustment to housing and feelings of overcrowdedness.

### 0.2.4.2. Demands for Tradeoffs: The Mitigation of Costs

A number of the Burnhams Navajos reported that despite the costs to them, they assume that the El Paso Coal Company will finally obtain right-of-way. They maintained that they are powerless to stop the mining. Nevertheless, some have publicly demanded mitigations, or tradeoffs, to the aforementioned costs. The following, in the order of their importance, are the most important tradeoffs:

A. the assurance of land to be set aside;

B. relocation together, as a family unit;

C. relocation close by, but out of the way of mining and development operations

D. reclamation of the original land;

E. assurance that livestock permits could be kept;

F. assurance that sacred placed would be preserved;

G. assistance in keeping livestock either at feedlots or a temporarily reduced number of them at home.

This ranking was achieved by the research staff through the generation of a linear decision model. Information for the model was obtained through

A. recording requests for tradeoffs in public speeches at chapter meetings and in interview;

B. inferring attributes about these tradeoffs requests from the folk classifications and definitions of costs.

The model and the tradeoffs represent the decisions, and the factors considered in these decisions, of a group of people to demand tradeoffs. The important questions is not whether people agree to, or acknowledge, the order of the ranking. Most people did. The question is whether or not certain groups of people would make any of these decisions at all. Actually, three other options were cited:

A. The uncompromising resistance to any development. This is manifest in refusal even to negotiate or attend negotiations.

B. Unwilling capitulation without demands for tradeoffs, These people maintained that resistance and demands were futile.

C. Willing acceptance of development of land in the hopes of a good steady job. Understandably these people were considered to have smallest hopes and interest in continuing their life on the land.

Navajos based their actual choice from among these four options upon, first, whether or not they see themselves as able to adapt to the changes brought about by development. Those who do not see themselves as able to adapt tend to choose options

"A" and "B" above. Those who think they can adapt choose options "C" and that of demanding tradeoffs.

The choice between "C" and demand for tradeoffs depends on the individual's traditional status within the community. Predictably, those with higher status tend to have greater interest in land, must speak of behalf of more people (particularly relatives), and thus are more disposed to represent traditional Navajo interests. Those with less hope of achieving such status, feel they must consider more immediate advantages of wage labor, whether they really want to or not.

The Navajos realize the factors behind these four major outcomes very well. Individuals have assessed their status by considering:

A. how much education they have;

B. whether they can get wage work necessary for their support;

C. whether they must support spouse and children;

D. whether they own or have inherited sheep;

E. how good a chance they have of inheriting the grazing permit;

F. how much responsibility they have come to assume for parents and older relatives.

Moreover, they consider these factors because each reflects a point of life crisis, or significant status change in their lives. Thus, each factor tends to be considered in the order listed above before the next one can be. Such order facilitates their placement in a decision model.

The end result of the study, then, is a life-time decision model "script" within which plans and subplans for resistance, acquiescence, tradeoff demand, or encouraging of development, may be placed. Moreover, the model is constructed of, and represents the language and thought of the Navajos actually making the decisions. Because it was derived from Navajo categories, its applicability can be guaranteed only for Navajos directly affected. Nevertheless, the methods by which this model were *derived can be applied easily elsewhere*. An important contribution toward social impact assessment in general is therefore possible.

## 1. THE SITE

The interviews were conducted in the Chapters of Burnhams, Fruitland, Sanostee, Red Rock and Shiprock (See Map, following page). Chapters are the basic geopolitical unit of the Navajo Nation. The primary functions of these chapters are the formalization of decisions about matters such as livestock grazing boundaries, homesite leases and dispute settlement. Also, information is transmitted and announcements made. Voting is officially by majority rule, although consensus (and therefore unanimity) tends to dominate. Chapters were initiated in 1927, in Leupp, Arizona, by the BIA. They were designed as a meeting place for BIA officials, Navajos returning from schools, and local people.[2] At present, they are the basis of political representation throughout many areas of the Navajo Nation.

Navajos born in a chapter area are considered to be from that area for life. Thus, if they move to any other area on the Reservation or elsewhere, they may return to vote on any issue. This is important politically because Navajos not being affected by specific development may vote to approve it. The following population figures are for on-site inhabitants, from adaptations of the 1970 U.S. Census.

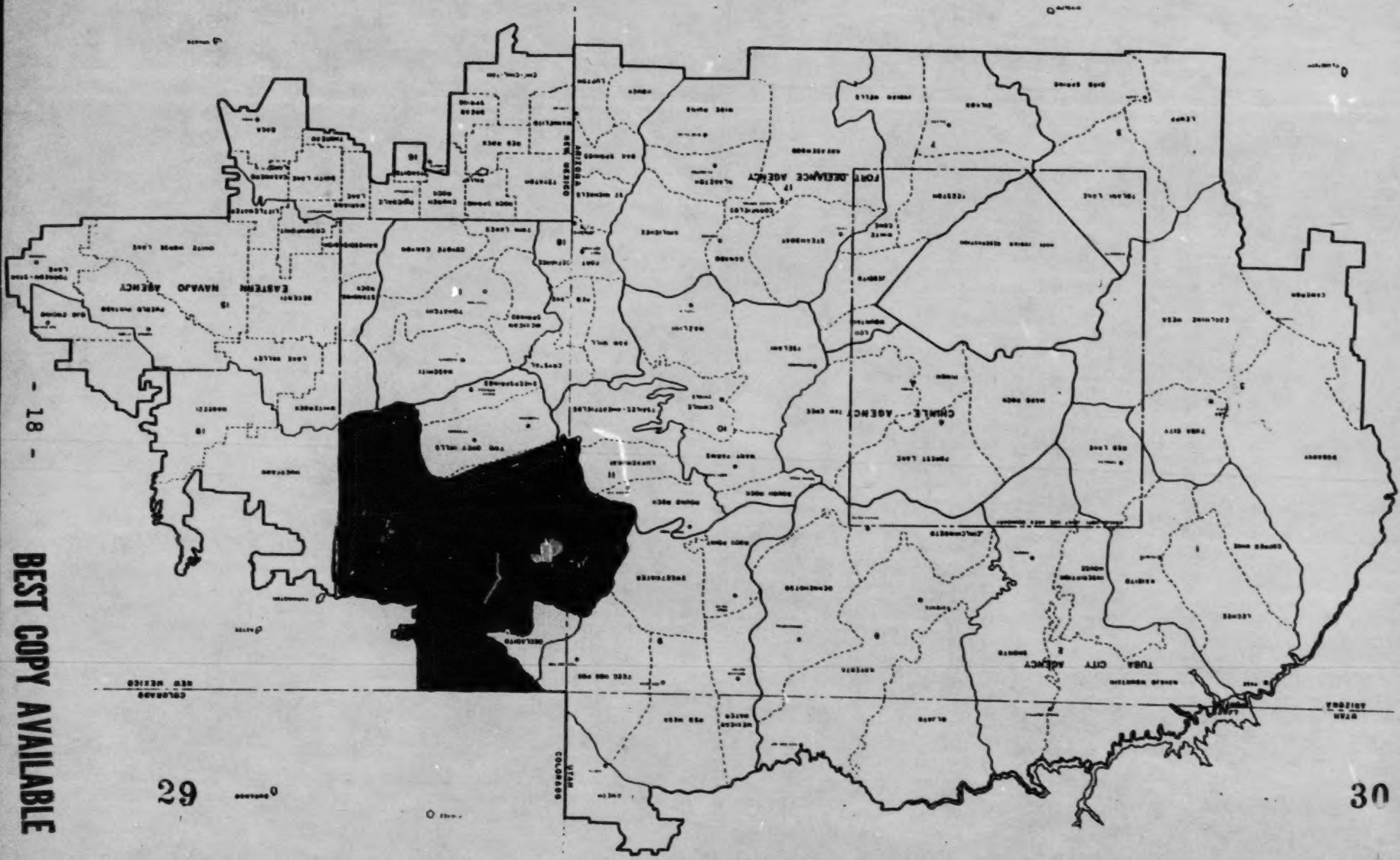
### 1.1. Burnhams

### 1.1.1. Population: 1,235

### 1.1.2. Expected Development

El Paso-Consol Strip mine, to include 40,287 acres, is planned with an anticipated employment of from 245 5o 735 miners, depending on whether or not gasification plants are built. Both El Paso-Consol and WESCO have offered the construction of a total of three such plants. So far they have not been approved. El Paso-Consol predicts that four families will have to be relocated immediately for mining. As this study will show, far more families than that will be affected directly. Present strip mine lease was approved in 1976. Construction was expected to begin June 1978. One test pit has been dug and then covered

BEST COPY AVAILABLE


EASTERN NAVAJO AGENCY
FORT DEFIANCE AGENCY
CHINLE AGENCY
TUBA CITY AGENCY
ARIZONA
NEW MEXICO
UTAH
COLORADO

BEST COPY AVAILABLE

up. Community resistance has had influence on this timetable delay.

1.2. Sanostee

1.2.1. Population: 2,347

1.2.2. Expected Development

Uranium mines yielding over 100 million lbs. will provide employment in mining, milling, and road construction. Projections of actual numbers of Navajos to be employed vary.

1.3. Red Rock (Red Valley)

1.3.1. Population: 2,406

1.3.2. Expected Development

Natwig (1976) reports that mining done in Red Rock during the 1950's may resume.

> During the decade of the 1950's, three uranium mills and several underground mines were constructed and began operation on the Navajo Reservation. These operations effectively ceased during the middle 1960's due to a decreasing demand for uranium. However, the national energy crisis and the resulting increase in demand for energy resources has driven many companies back to the Navajo Reservation.

(Natwig, 1976, P. 72).

While massive relocation is not anticipated, residents fear disruption of pastoral ways of life. At this point, however, no development has begun.

The mining performed in the 1950's has been connected to a very high occurrence of black lung and lung cancer. Accounts of these afflictions have been reported in national magazines such as The Progressive (Barry, 1979). Bitterness is compounded by the failure of the Atomic Energy Commission, ERDA, or the Department of Energy to accept responsibility for payment and insurance. No mention has been made to involve the mining companies in such equity disputes. Presumably this is because of the special trust status of the Navajos with the BIA, but information confirming this possibility is unavailable to the project.

### 1.4. Upper Fruitland

1.4.1. Population: 968

### 1.4.2. Background and Expected Development

This area has been the subject of several ethnographic community studies by Sasaki (1960), and Ross (1955, as reported by Henderson and Levy, 1975). As will be explained in Section 3.ff, the expansion of Navajo Agricultural Products Industries (NAPI), a large irrigated agribusiness project, has resulted in the forced relocation of over 200 families. While most of this relocation was done within the chapter area boundaries, the alienation of these families from their land to areas not traditionally considered their own will be seen to result in severe distress.

### 1.5. Shiprock

1.5.1. Population: 7,006

### 1.5.2. Background and Expected Development

Shiprock is the administrative center for the Northern Navajo Agency, which includes all the aforementioned Chapters. Administrative agencies include the BIA, USPHS and other federal agencies, and various Navajo Tribal Government segments. The Primary development is being planned in manufacturing. One company, the Fairchild Camera and Instrument Corporation, built a plant for manufacture of semiconductor parts, but was closed down in 1974 after labor disputes. While no industries are operating at present, infrastructure in the form of building and utilities remain. This infrastructure, along with Shiprock's consideration by the Tribal Government as a suitable site for manufacture (Natwig, 1976), makes some such light industry likely.

This chatper differs from the others as a result of the location of administrative activities there. Many of the Navajos who live here lack inherited land, and can be expected to differ in attitude from their more rural counterparts in regard to development.

## 1.6. Navajo Agricultural Products Industry (NAPI) and the General Implications of Development

While the focus of this report is the social impact of energy resources development, brief mention should be made of NAPI, the agrigusiness development. Natwig (1976) provides a review of the project's founding as well as a glimpse of its magnitude.

> In May 1967, the Navajo Tribal Council established the Navajo Agricultural Products Industry (NAPI) to operate the farm and to develop related agribusinesses. Agri-businesses, planned and anticipated, include a vegetable cannery and packing plant, fertilizer plants, livestock feedlots, dairy and poultry complex, meat packing plant, greenhouse, feed and seed processing facility, beverage plant, wool scouring facility and a leather tannery. NAPI proposes a community to serve a total population of 8,000 within the project area. The Navajo Tribe to date has invested $10 million of Tribal funds for infrastructure for the project, including employee housing.
>
> The Bureau of Indian Affairs (BIA) will construct over 440 miles of paved roads for the project.
>
> Current estimates of total project cost are now well in excess of $300 million; to date a total of $104 million has been spent.

(Natwig, 1976, p. 630.

As it is proposed to cover 110,630 acres of Revervation land, its borders spill into Burnhams, Huerfano, Shiprock, and other small chapters (See Map p. 18). Additional families face relocation in these areas.

Thus, the Navajo people living in the area bounded by the Shiprock Agency, which includes all these chapters, have already faced over 50 years of mining and other large-scale development projects. It may thus be reasonably expected that these people will form their attitudes toward present development at least in part from the historical past which they have experienced.

## 2. THE SOCIAL COSTS OF ENERGY DEVELOPMENT TO TRADITIONAL NAVAJOS

Navajos are well aware of the possible effects of energy development, and for that reason at least some of them are against mining. Not surprisingly, those most against mining are those with the closest ties to the land. To be sure, few, if any, Navajos still depend on their land for their entire livelihood. However, that fact is less important than the need Navajos have for their land in order to participate in World and National economies to their perceived advantage. And to do that, they must be able to maintain their social structure and impart their cultural knowledge to future generations. This implied need, in turn, brings us full circle to the need for these Navajos to remain on their land.

Disruption to the traditional Navajos' social life by energy development emerges in two forms:

A. relocation brought about because of strip mining, which could easily disperse and destroy the whole social fabric; and

B. crowding and environmental damage to populations not relocated.

Navajos from the Burnhams Chapter have anticipated the costs for "A" and those from Red Rock and Sanostee have anticipated the costs for "B". Other areas of the Navajos Nation have been similarly affected, but discussion will be limited here to interview testimony from these two areas.

### 2.1. The Costs of Relocation

Navajos in Burnhams Chapter anticipated that the social costs of strip mining, which is to consume ultimately about 40,000 acres, emerge in three main categories:

A. disruption of everyday economic live and the egalitarian economic base upon which they can rely;

B. disintegration of the reciprocal exchanges among kin and neighbor which allow for maintaining subsistence to cope with the often adverse conditions in the national and world economies;

C. disintegration of the kinship system and emotional support inherent in these exchanges.

### 2.1.1. Everyday Life: Progressing Together and Making a Living

For older traditional Navajos especially, the land and the livestock provide not only the basis of subsistence. These also furnish the learning conditions for the proper raising of children and the foundations for acquiring and using reason and thought. Livestock and land are also the moorings of the unity, functionality, and identity of the extended family. Loss of the grazing permit, ostensibly simply a government document, is expected to cause the loss of land and thus loss of dependable livelihood, family organization, the means of upbringing of children, and one's basis of political expression.

### 2.1.1.1. Loss of Grazing Permit and the Means of Raising Sheep (See Appendix 2-1 for Example of Permit)

The grazing permit itself is simply a document issued by the Bureau of Indian Affairs and Tribal governments. It authorizes a landholding group of Navajos a certain number of sheep per unit land area. It can be passed on from generation to generation, either divided among all the children or passed on to only one child. Dividing the permit means simply that the original permit is redrawn as a series of other permits, each of which authorizes only a fraction of sheep authorized by the original.

However, to the local Navajo the permit means much more. It is a document whose presence can confer citizenship and standing to an individual and whose absence can deny it. A few Navajos liken the grazing permit to the much older łiíschiín, or "livestock stones." These were traditionally blessed by a medicine man and were an acknowledgement of the status which an individual could gain through hard work and a good life. It is therefore possible that the grazing permit has been assimilated by many older traditional Navajos and has come to stand for these sacred stones. Thus, "citizenship" comes to stand for rights to a full way of life. i.e.

A. an avenue of self-respect through identification with land and family;

B. the permission to speak one's mind at chapter meetings, to make one's feelings and knowledge known, and to be able to influence others.

The Grazing Permit thus becomes one of the most important pieces of political currency in the transactions between the Tribal government and the local people of Burnhams. It also is the chief bone of contention between the two. For the Tribal government the permit is the bulwark of individual resistance to the Reservation-wide land-use planning and economic development policies. For the Tribal government these policies are the center of hopes toward Navajo economic self-sufficiency and political self-determination. Thus, the Tribal government would like to possess these permits. For the Burnhams people the permit is not only a means of resistance; it is a certification of citizenship, status, and respect within the land-use community and chapter. Obviously, the landholders would like to keep them.

In Burnhams, people have been given the option either to sell the permit outright (which few have done) or to lease it. In leasing, the Company pays the landholders (through the Tribal government) while mining. Afterwards, the landholders may reoccupy the land. Land reclamation by the Company for the leaseholdings has been suggested by both local and Tribal officials, and has been tested in Utah International mining sites to the north. However, no definite promises have been made in the Burnhams situation. Also, both the locals and the Tribe share the doubts that reclamation is possible.

For Navajos in Upper Fruitland, no option for leasing was made. If the conditions of permit sale were not agreed to, the permits were confiscated outright in return for a small payment. In Sanostee and Red Rock, the proposed shaft mining is assumed (apparently by the Tribe) either to be scheduled remotely enough into the future, or to cover such a small land area, that no arrangements have been made for lease or sale that we know of.

The policy chosen for grazing permit settlement has important effects on the local peoples' perceptions of the Tribal role. The resulting relationship is usually an adversary one, but available options for leasing seem (to no great surprise) to encourage more negotiation and less outright resistance.

36

### 2.1.1.2. Sheep

However, the political importance of the grazing permit itself is overshadowed by its more obvious function: as a means of having sheep. The following quoted folk definitions illustrate.

DEFINITION: THE SHEEP PERMIT IS A VALUABLE POSSESSION (see Appendix 2-2 for original Navajo transcription)

1. When one has a sheep permit it is usually considered the most valuable possession.
2. If one has no sheep permit, there is no way of obtaining sheep.
3. The sheep permit is a source of peace of mind for some.
4. After one receives a sheep permit, one can begin thinking ahead without hesitation.
5. It [I.e. the sheep permit] is the only source of survival for some.

With sheep, thought, and social structure so inextricably intertwined, it is not surprising that the disruption of one component will reverberate to another. The Navajos at Burnhams classified the value of sheep in their lives into the following headings:

A. maintaining of strong bonds among kin and neighbor;
B. making an actual living by means of sheep;
C. bringing up children by means of sheep.

#### 2.1.1.2.1. The Bonds of Kin and Neighbor

In explaining what "strong bonds by means of sheep" (dibé binahji' da'ahiíniíta') means to them, Burnhams Navajos listed the following:

DEFINITION: STRONG BONDS (See Appendix 2-3)

1. We maintain close relative greetings by means of sheep
2. We progress together by means of having sheep.
3. One is respected and sought after when one has sheep.

"Close relative greetings" can be translated from the Navajo k'é woléii, and can also mean "all that is implied by greeting one as a close relative." In a broad sense, then, it can be interpreted as referring to *all informal and formal relationships, obligations, and expectations among kin*. K'é thus denotes an ethic as well. One must always be expected to offer sheep or food when a relative approaches (even if it may a bit inconvenient), and not to do so implies a meanness and stinginess which one may expect to have returned to him or her in kind.

The K'é "ethic" implies yet another ethic, that of "progressing together" (náás ahoojih). Those who are well off must help those who are in need; and conversely, those in need are entitled to such help. As far as amassing material wealth, then, a spirit of reciprocity prevails, in which eglitarianism[3] is a given.

As Attribute #3 of the definition immediately above implies, sheep are also the key to a system of status. Those who have many sheep are respected because they must have lived right, so to speak. Thus, one who has sheep is entitled to respect by others, especially if he or she is generous. Of a more immediate economic importance is the fact that being able to butcher a sheep is much less expensive than having to buy meat.

DEFINITION: WHEN ONE HAS MEAT HUNGER (see Appendix 2-6)

1. And, when one gets meat hunger, he does not think about something to pawn in order to buy some meat; he just butchers a sheep for his children.
2. Thus, now it is well known that a very small piece of meat costs a fortune
3. Thus, when one has sheep he will not go through the trouble of getting enough money to buy meat; he would simply butcher one.

"Mutton (or meat) hunger," whatever its physiological or psychological origins, is a serious condition. Hospitals staff have reported that patients complaining of mutton hunger have refused to eat other sorts of meat to the point that starvation symptons have occurred. The patients have often explained this refusal as being unable to swallow other sorts of meat. It is therefore safe to conclude that mutton hunger is a strong motive for economic transaction, to say the least.

Another economic contribution from sheep is the enhancement of the Navajos' active participation in the U.S. and World market economies.

DEFINITION: WE ARE ABLE TO COPE WITH EVERY HARDSHIP BY MEANS OF HAVING SHEEP (See Appendix 2-7)

1. We pay our debts /to the trading post/ by means of having sheep.
2. We make a living by selling our lambs
3. We make a living by selling wool
4. The wool can become a rug
5. We must use mutton for ceremonial purposes

### 2.1.1.2.2. "Progressing Together": An Alternative and Supplement to the Market

As the previous subsection demonstrates, reciprocity among kin helps Navajos to avoid direct interaction with the wider American market place, on one hand, and to interact actively with it more to their advantage, on the other. Comments from the Burnhams residents, moreover, indicate that the Navajos are perfectly aware of these economic advantages. In the first definition which follows, various aspects of subsistence are described:

DEFINITION: WE USE OUR SHEEP FOR MAINTAINING A PROPER DIET (See Appendix 2-4)

1. We are able to provide sheep for those who are mutton-hungry, upon their request.
2. We are able to provide sheep /whole or butchered/ for our children when they get mutton hunger.
3. We use our sheep to help other people who are in need of meat.

Burnhams Navajos described two ways in which wool is used:

A. for weaving traditional rugs (which have attained considerable monetary value in recent years); and
B. in the sale of raw wool.

The following definition demonstrates:

DEFINITION: WAYS OF MAKING A LIVING THROUGH SHEEP (See Appendix 2-5)

1. When the sheep are sheared, /the wool/ can also become a rug.
2. And when one shears the sheep, she will save some of it.
3. Thus, the wool that one saves, she would weave it into a rug, as well.
4. Thus, with the rug one can acquire many things up to the time of the next shearing.

5. Some are sold to the trader and others to those who have mutton hunger.
6. And then, it is also used to repay debts. These are some considerations.

The sale of wool products thus appears to perform two functions. First, it protects against the disadvantageous effects of the trading post credit system. Second, it is a means of keeping alive informal reciprocity.

For the Navajo, the allocation of scarce goods and services has been less influenced by the Western market system (and its political variants) than elsewhere throughout the United States. As the following definition implies, many of the Navajos here do not see the market or wage economy system as one upon which they can depend to maintain a worthwhile social life.

DEFINITION: THE SHEEP PERMIT IS THE ONLY SOURCE OF SURVIVAL FOR SOME (See Appendix 2-6)

1. Having a sheep permit is a means of peace of mind for some.
2. If my livestock should be terminated, that would be the end; how could I possibly ever continue making a living for myself? There is none.
3. There is security throughout the year by building credit with sheep at the trading post.

For women especially, it seems, the sheep and livestock are also a form of long-term investment. Despite the restrictions imposed by the Tribe and BIA through issuance of grazing permit (which may possibly be disregarded wherever possible) proper care will reward one through the livestock's natural procreation. To the Navajos then, who are computing investment, a sheep can be worth far more than its market value. The following definitions and quotes illustrate.

DEFINITION: THERE ARE NUMEROUS WAYS IN WHICH WE MAKE A LIVING BY MEANS OF HAVING SHEEP (See Appendix 2-7)

1. A sheep is very active, giving birth and wool up to the age of eight years; thus to this age a sheep will make thousands
2. Having sheep provides me with active credit and security throughout the years

3. The lambs are very profitable too; they are sold to the Trading Post and to those who have mutton hunger
4. When the sheep are sheared, some are sold; and for some, the wool becomes a rug.

While the term "thousands" in the first attribute does not necessarily imply that the woman means "thousands of dollars," it does suggest that the value is considered large even in monetary terms, as well as in the more difficult-to-compute social exchanges which are non-substitutable by market exchanges. "Thousands" thus suggests that the value is perceived as very high both in market and non-market exchanges.

### 2.1.1.2.3. Sheep for Raising Children and Thinking Ahead

Sheep are evidently valued by the Burnhams Navajos in the support of their children in two main ways:

A. supporting children through feeding and clothing;
B. supporting children through facilitation of their learning of Navajo ways of life.

In explaining how children are supported, Burnhams Navajos list the following advantages:

DEFINITION: BRINGING UP OUR CHILDREN BY MEANS OF SHEEP (See Appendix 2-8)

1. Our children are able to go to school by means of having sheep.
2. We are able to feed our children by means of having sheep.
3. We are able to clothe our children by means of having sheep.
4. It gives the children worthwhile things to do.

As they further explain, Navajo parents and grandparents can help buy clothes and supplies for their children at school by selling lambs. Wool products (including rugs) have been cited as useful for larger expenses, including college tuition.

To understand how children learn Navajo ways through sheep, it should be explained that children are traditionally given a number of sheep to take care of and these sheep, earmarked for them, are the beginnings of a herd they will later inherit as adults. Apparently, the ideal is for the children themselves to care for them, especially when they are not in school. People may therefore expect that a young person who has been properly brought up will have a large herd.

As child is brought up, he or she will learn the place of sheep in the total universe, and how they stand for a healthy mentality. First, in the creation legends sheep were among the first things put on the earth when man and woman were created. The following fragment from Werner and Begishe (1968) illustrates:

1. Thus on the sun's side, the sun made man; with changing woman.
2. Well four of them he put in place. These sheep he made thus first, horses, game animals too, they say.
3. They made cows, there wasn't a thing they didn't make. Well it was then that planning became set in a line (started).

(Appendix 2-9)

Thought, in these legends, was already in existence. With the advent of sheep first, and livestock later, thought toward human action came.

Second, when one therefore has sheep, thinking for their benefit will obviously perpetuate not only the sheep but the individual as well. Again, admonitions cited by Werner and Begishe (1968) illustrate:

1. When one thinks for the benefit of the sheep, surely accordingly it will happen.
2. Sheep are life.
3. Those called sheep are your mother.
4. Sheep are the very beginning of one's mind (thought).
5. I myself live (walk) in the tracks of sheep.

(Appendix 2-10)

These admonitions suggest that an individual who learns to take good care of sheep will learn or infer moral principles toward man and life in general. Admonitions cited by Werner and Begishe toward girls further suggest the connection between sheep and life.

1. When one wishes, "the lambs will be well," that is called "One thinks for the sheep".
2. When one wishes "they will be fat," that is called "One thinks for the sheep".

(Appendix 2-11)

For horses and other livestock, the following additional admonitions pertain:

1. Keep the (livestock) horses well.
2. Learn going after the horses.
3. A person keeps thinking ahead is called one is thinking into the future about one's livestock horses.

(Appendix 2-12)

Such admonitions work both ways. Treating livestock humanly means they will live well and be used properly. Conversely, a large, well-tended and utilized herd implies that an individual has a good understanding of proper conduct toward fellow humans as well and thus a good understanding of the "good life" (yá'át'éehgo iiná). Finally, this conversely implies that the youngster learns will *by doing*, as well as by admonition.

Obviously, life without sheep and livestock not only insures the breakdown of the present subsistence-based kin groups: it insures that the children will run amok as well.

### 2.1.2. Disruption of Kin Life

The importance of kin-life to the individual can best be seen in what the Burnhams Navajos say they fear will happen to them in the event of relocation. Their stated fears are based on the simple assertion that they are *accustomed to one another*.

DEFINITION: WE ARE ACCUSTOMED TO ONE ANOTHER BY...(See Appendix 2-13)

1. having close greetings and transactions among our relatives;
2. Knowing one another very well;
3. helping one another;
4. having good thoughts of one another;
5. caring for one another;

These are people who also stated "We are accustomed to the way our homes are situated".

Mining and relocation, they fear, will basically cause people who have been living next to each other for their whole lives to be split up. The speaker above voices these fears directly.

> Thus, at present we would say "so-andso lives over there". We know one another very well and are very friendly toward one another and help in every way. Thus, we have really gotten used to one another in every way. Thus, if one of our close relative moves off somewhere the result will be that we will be saying "The late so-and-so... I wonder how they are doing. Do they have children?". Thus, probably we will be saying these things. Therefore, we desire that for those of us who know each other very well, who look after one another and who are very friendly with one another, if it comes to moving us, it would be nice if we could live side-by-side some where.

(Appendix 2-14)

## 2.2. The Cost of Energy Development Without Relocation

Thus far, description of costs has centered around the total loss of the traditional way of life. Little mention has been made about how Navajos have been thinking about the jobs which they or their children often accept from nearby locations such as Shiprock or Farmington. No doubt, these details emerge better when peoples' thoughts about the future are clouded less by the total destruction anticipated by relocation. They can be prompted more by the prospects of other kinds of development which will occur near where they will live. One area in which this sort of development is occurring is in the Red Valley-Sanostee area, south west of Shiprock. While many of the objections to the mine are related to those from the Burnhams area, as concerns land and employment, others are much finer-grained and pertain more to the kinds of jobs people would receive, and the immediate effects of mining on plant life, animal life, and water quality.

### 2.2.1. Quality of Jobs

Interestingly, one of the objectives to the mine was not that people would have to choose between land and jobs; it was the quality of the job. Navajos in that area report that the effects of mining on their health are still fresh on their minds. An alarming incidence of black lung and lung cancer among former miners has been reported (Barry, 1979). Worse yet, no compensation has been forthcoming from any company or agency concerned with mining or mining safety, and the assistance has been withheld despite acknowledgement of a casual relationship between mining and the diseases in the area (Barry, 1979).

Understandably, the Navajos here do not want their children to experience the same mishap. However, this does not mean that they do not want their children to have jobs. Rather, it means that they do not want dead-end (literally) varieties. As one speaker points out, they want their children to stay in school long enough to take over high-level jobs presently held by Anglos.

> The White man have wanted and taken some of our land; now they say they want my land to benefit them. They only think of themselves, not the Navajos. When they say they will hire mostly Navajos, they're lying. One time I parked my car under the trees near where the road from the San Juan Generating Plant meets Highway 550. It was around 5:00; workers were driving home. Many of them were heading towards Farmington. Many of them were White. Only a few were Navajos headed towards Shiprock. I believe that is why the money is going out of the Reservation. I want the money to stay in the Reservation.
>
> When they say they will have jobs for our kids; they mean the bottom-of-the-list jobs. This is why I want my kids to go on to further education. If my kids get enough education, they will take over the jobs held by the Whites. They can come back here and work from here.

(Appendix 2-15)

Obviously, perception of their socioeconomic class position in the Dominant Society is a consideration. If they allow their land to be developed they will be in the lowest class. The better the job, the better the consolidation of land, and thus, the better the guarantee that they, as Navajos, will not be stuck in the lowest rung of the American social ladder. Another landholder made the point of social class himself when explaining why he refused to permit mining even though he does not face relocation.

> I totally disagree with the drilling and mining around here because it just ruins the land. It seems to me that it creates jobs only for the people who have education. Me, I

> want my children to hold good, stable jobs--get the jobs which are now being held by the Whites. That is where all the money is; we will get the money here; it won't go off the Reservation; it will come in. If the mines go through, the money will just go out of the Reservation and the Whites will get all the profit. I will not be moved for any reason, because I am thinking ahead for my children.

(Appendix 2-16).

He continues by outlining how he expects his children to operate. Interestingly he supports his hopes on the basis of past disapointment with the promises of development.

> I want my children to live here among the land of their ancestors and call it theirs. The land is always going to be here, but not money. That is why I want my children to live here. I want them to work from here. I don't want them to hold a job that has something to do with mining, because Whites have made promises but haven't lived up to them--like hire as many Navajos as possible, which never comes about.

(Appendix 2-17).

### 2.2.2. Divisibility of Land

Another objection regarded the fears that outsiders would come in. By outsiders what was being referred to was not so much the Anglos (though they were a concern) but Navajos who are not of the same clan as are the principal residents. These outsiders, it is feared, will decide to settle there and occupy land which, by unwritten right, belongs to others. Thus, one speaker explains that he would like to keep the land within the bounds of the maternal clan--in this case, the Ta'neeszahnii Clan.

> Many of the kids around here go off the Reservation to get jobs, but many don't have a place to stay on the Reservation. For my kids, they have land here, so they can stay here. This is the Ta'neeszahnii (Tangle) Clan land. It has been handed from my parents and from my grandparents. I do not want anybody moving in here. The first thing they do is ruin the land. They did some drilling over there and water came out and it is smelling bad. Also, they build unnecessary roads. This is why I don't want anybody moving in. This is Ta'neeszahnii Clan land, not even any Navajo people can move in. This is mine and Ta'neeszahnii Clan land.

(Emphasis ours, Appendix 2-18).

As with other communities the influx of Navajo outsiders will both create more pressure for scarce land and take this land out of family inheritance.

Based on their past experience from mining in this area, fears were also expressed about damage to plant life, pollution of water, and thus the sickness and death of livestock. Water flowing from the mines had been reported to have a bad odor (haalchxin). Other reported that they had heard that water gushing from the mine (located predominantly in mountainsides) would lower the water table. Still others reported that while plant life has been decreasing for some time, the mines would possibly aggravate the situation. One speaker summed up the feelings in a prediction based on observations from the San Juan Power Plant:

> The water will all be gone; even though there is not very much now, the land [and water] cannot be replenished. We have seen this happen in Fruitland power plants. Nothing can grow there anymore. Even the Morgan Lake [the coolant lake] smells bad.

(Appendix 2-19).

## 3. ANTICIPATED LOSSES: "WE HAVE SEEN WHAT HAS HAPPENED TO OTHERS"

The peoples' apprehensions in Sanostee and Red Valley are clearly based on what they saw happen to themselves and their neighbors. The question then arises as to where, if anywhere, they obtained their information. Actually, the answer is not difficult to find; Burnhams residents reported that they saw what happened to their neighbors and kin in Upper Fruitland Chapter. These Upper Fruitland people clearly suffered, and what they describe fills out in grim detail all the fears of the Burnhams residents, and then some.

The following narrative and tabulations will provide yet another small contribution to literature from around the world which throws into proper relief the nature of the promises of industrial and energy developers. It has been their promise that whatever degradation of life and environment may occur, the prosperity resulting from economic development would leave those affected as well off, or better off then, they were before. In the short run at least-- since 1976-- the promise has not been true.

### 3.1. Background

In the 1930's and 1950's portions of the San Juan Valley were opened to irrigation through the Bureau of Reclamation water diversion. The BIA was given the responsibility of relocating some of the Navajos already living in the area. Around 1976 another major relocation occurred with the expansion of the Navajo Agricultural Products Industry (NAPI), a large agribusiness development sponsored by the Navajo Tribe. In this case the Tribe was given the responsibility of informing the people of relocation, and the BIA would actually carry it out.

This area was by no means new to the influxes. Even before the 1950's the Bureau of Indian Affairs initiated a small farmers' program, during the mid 1930's, in which Navajos' land would be converted from grazing to irrigated farms, with the Navajos keeping their individual landholdings and converting from pastoralism to small farms. Farm plots were assigned to family heads and attempts were made to keep households divided according to nuclear family (Ross, 1955 from Henderson and Levy, 1975). Because the plots of land were 5-10 acres, reliance on farming alone, either for subsistence or market, was found to be impossible. As a result, Navajos in the area engaged in wage work and tended to reside in family groups consisting of the nuclear family and one or two parents (Ross, 1955, from Henderson and Levy, 1975). Because the plots of land were 5-10 acres, reliance on farming alone, either for subsistence or market, was found to be impossible. As a result, Navajos in the area engaged in wage work and tended to reside in family groups consisting of the nuclear family and one or two parents (Ross, 1955 from Henderson and Levy, 1975; Sasaki, 1960). Some also maintained, or went to, sheep camps near areas such as Burnhams. Most work was of a seasonal variety (e.g. railroad) or at best temporary (e.g. pipeline construction) and wages varied widely (Sasaki, 1960).

This study's interview results support earlier findings, i.e. that traditional pastoralism has long been suppressed (Sasaki, 1960), and neither it nor farming contribute significantly to livelihood. Also, informants pointed out that their consumption patterns had shifted toward reliance on a welfare-market economy.

Those who attempted to resist or negotiate for better terms were told that all their neighbors had approved and they were the last ones. This discouraged many of them from further resistance or delay. The spokesman who made the announcement reportedly came from elsewhere in the Reservation and had little personal or family interest in the fate of the community residents.

The most recent influx comes from the 1976 dislocation from NAPI, however. From the reports obtained so far, all informants agree that when they were relocated, they were ordered to leave, with little advance warning and little chance to voice their likes, dislikes, or options. Briefly the events were as follows.

### 3.1.1. No Warning

At chapter meetings they were informed that an "announcement" (not an assessment) would be made. They were not informed as to the nature of the announcement until they were at the meeting, at which time they were told that:

A. they would have to relocate quickly;
B. it was "for their own good as Navajos";
C. resistance was pointless.

They reported being given as little as 3 days and as much as 36 months to move.

3.1.2. Intimidation

All respondents agreed that spokesmen were gruff and demanding. They were told that resistance was pointless because the houses of those staying on site would be bulldozed and their livestock shot before their eyes.

3.1.3. Vague Exhortations

In all cases people were assured that it was "for their own good as Navajos" but were given little additional explanation other than the possibility of more jobs and better homes. Those interviewed provided the following interpretations as to the veracity of these promises:

A. Anglos were described as running a "tribal enterprise" for Navajos;
B. Window Rock (the Navajo Nation Capital) was blamed as greedy;
C. Their representatives to Window Rock (i.e. councilmen) were seen as the only long-term beneficiaries.

In effect, their bitterness was at their exclusion from the visible progress of the agribusiness concern nearby. They maintained that they were not against progress per se but felt that they had forfeited their livelihoods for nothing. Thus, they reported that they would at least like to have had some place for their own crops "so we can progress together."

Finally, the idea of progress expressed by NAPI representatives, in general, left a bitter taste for them because their houses were either burned or bulldozed to the ground before materials could be salvaged. As one maintained, "it gives you a weird feeling to see the home you've grown up in burned to the ground."

### 3.1.4. Broken Promises

Those who asked questions about the specific details of relocation were apparently given extemporaneous promises.[4] Among these were the following:

A. First pick of the jobs for old and young: In fact many reported that the jobs were allocated one per family, so that the jobs alone could not support an individual household.

B. Three-acre location near the developed farm: In fact, they reported receiving one-acre to three-acre tracts at the edge of a 500-foot cliff over the San Juan River.

C. Offers to pay for house, sheep, corral, baking ovens, etc.: In fact, they received only a house and 3-acre site.

D. Better housing for all: Some were later informed that they were not eligible for housing for various reasons.

E. Lumber and self-help building materials from the BIA: No one reported that these were provided.

### 3.1.5. No Knowledge of Present Status

A. They do not know where their sheep permits are, if they have any hope of possessing them.

B. They were promised $300/sheep unit but money was deposited in a bank "for them" and many reported that they did not know how to get it out of the bank. Others reported that when they did find their money it was less than what was promised.

C. The rest have spent their money and do not know where to get more.

### 3.2. Reactions to Relocation: The Effects

From the above descriptions it is easy to infer that people did not like the way they were treated. They moved anyway, because they were convinced that it was pointless to resist. They also reported that they had hoped for good treatment from the Tribal government and their representatives. Now many bitterly pointed out that they received no benefit from those projects other than a demoralizing welfare.

Those who relocated are divided arbitrarily by the research staff into three "generations." The first generation owned the sheep permit at the time of relocation. The second were old enough at the time either to advise or recommend a decision by their parents. The third generation were too young to have a say in the matter, or were not even born. Out of a total sample of 38 first-generation people, only 12 talked to us. Their second generation progeny usually spoke for them, explaining that their parents did not wish to talk about the experience, and that they would dismiss discussion by remarking characteristically "what is done is done."

Both generations agreed that their way of life was worse than before. One translated quote summarizes the feelings of especially the older relocatees:

> There is nothing to live for. There is no land; there is no hogan; there is no sheep permit; there is no livestock. I'm not used to this world...I would haved liked /at least/ a small area of land like the one I had with a hogan on it... People told us "you're poor and the new life will be better for your health." But it is not. Life is like many arrows striking us from all directions. There is nothing for us to do but wait and die.

In more detail, some of the specific objections reported by the second generation, both on their own and their parents' behalf are the following:

### 3.2.1. Idleness

The loss of the sheep permit and the loss of their status within the community resulted in idleness in many ways:

A. Only up to 10 sheep were authorized. This number was considered too small to be easily maintained. Others reported that neighborhood dog packs wiped out whole flocks which were trapped in enclosures.

B. Women reported that they could spend at least some of their time weaving and growing vegetables. The men were reported to have little else to do but drink and many died at an early age as a result.

C. The relocatees' rights to state their ideas at chapter meetings were gone because at their new location they had no right to land. In effect, they were considered as "guests" by the host population.

Depression, and drinking to relieve depression, were the most frequently stated results of idleness. The second generation of individuals reported that they had spent considerable parts of their lives drinking.

### 3.2.2. Poor Housing

No one reported liking the conditions of the housing. The general location of the houses was described as poor and as causing problems ranging from inconvenience to mortal hazard.

A. The houses are too close together.

B. The houses are too close to the dirt roads and dust falls on everything in the house, and causes colds and coughs.

C. The houses are sometimes located near or on top of Anasází (i.e. ancient Pueblo Indian) ruins. Many maintain that being anywhere near these sorts of artifacts will result in sickness and misfortune due to the influence of the dead associated with them. As long as they remain near these sites they cannot be healed.

D. Foundations are often located in soft sandy ground and tend to crack and wash away in heavy rain.

E. Sites' locations on the side of cliffs, (either bottom or top) are demoralizing because they give people the feeling of being "against a wall" or "against the edge." As one individual remarked "this is great for the Anasází but not for Navajos."

F. Many of those relocated in valley locations prefer moving to the up-lands. They feel boxed in, in the valleys, and their vision is blocked.

G. Relocatees feel as if they are imposing on their hosts because their housing sites encroach on ancestral lands occupied by the host population.

Other objections pertain to the houses themselves. For one thing, they are considered tacky, i.e.

A. They break apart easily,

B. Cracks appear constantly in the floors, along doorsills, and near the windows.

C. Trailers are light-framed and tend to shake in the wind.

D. No repairs are made by anyone. Few relocatees know how to make repairs on plumbing or electric circuitry.

E. The paint began peeling as soon as the houses were occupied.

Moreover, the design itself is considered poor.

A. They would have liked to have time for hauling away the materials of the original hogans, but were not allowed to.

B. Fireplaces are located in the wall (presumably as a luxury feature) and are not functional; i.e. they can not be relied upon for heating or cooking.

C. Houses are cold. People reported putting blankets in the doorways to hold in the heat.

D. People want larger houses. Traditionally if more housing room were needed, an additional hogan could be built. With present acreage, however, this is considered no longer possible. Thus, one woman reported that when she requested a 4-bedroom house for her seven children, she was informed that she did not need such a large house because her children would eventually move away and she would be left with an empty house. Given the continuity of the Navajo family, this would be unlikely _in normal circumstances_.

E. Finally, people simply reported that "it's not me." More detail remains to be collected as to the meaning of this assertion, and will hopefully render a better idea of proper design features.

### 3.2.3. _Falling Standard of Living_.

People reported that they "never used to be hungry." Now they say they have frequent mutton hunger and no way to satisfy it through one's own sheep. People must now depend on the market for meat, with its higher prices, and are further afraid that this food will not be available in the event that they lose their jobs. One woman from Burnhams, who had children and nieces in Upper Fruitland, reported, with irony, that whenever she visited them she was the one who had to bring food. Customarily, she pointed out, it is the visitors who should be fed, but toward the end of a pay period, her Upper Fruitland relatives' refrigerator is always empty and, if anyone is to eat during the visit it is she who has to bring the mutton from her own flocks.

In the same fashion people report that they need more money for everything. In part this may reflect the higher prices of so-called modern rural living. For example:

A. Electricity must be used for lighting, instead of kerosene. People cited paying prices of $16.00 per month for electric lighting.

B. They must use LP (Liquid Petroleum) gas instead of wood or coal (the latter would make good sense in this area). No gas is piped in. Prices were cited anywhere from $2.50 to 5.00 a gallon.

C. They must depend more on the local trading post for items such as meat which they originally could obtain from their own herds at much less cost.

D. Water must be purchased. Originally it was hauled from nearby wells.

E. They have to buy their own appliances which they never needed before.

Increased dependency on the trading post system apparently arises from two interrelated factors. First, with very little money, the credit offered at trading posts is the only alternative for those who sell their weaving. Second, the interkin and neighbor-based reciprocity and co-operation have broken down here. Thus, they must depend even more than before on the trading posts and bordertown markets.

Because of fewer sheep and low job security, people reported becoming increasingly dependent on welfare. Some of the possible jobs cited were 10-day work project jobs and other short-term projects administered by local chapters, short-term construction jobs, janitorial positions at educational and government installations, and short-term educational programs. They are at a disadvantage for receiving chapter-administered jobs, moreover, because of their indefinite "guest" status.

### 3.2.4. Failing Health

This was the one effect which people cited of the nearby San Juan Generating Station. Navajos there reported that because of the smoke plume setting in or near the valley, they get colds and respiratory ailments more easily. Moreover, the depression discussed in 3.2.1. reportedly aggravates the colds and causes a higher death and morbidity rate. As one person maintained, "the old people don't fight colds like they used to, to try to stay alive." Drafty houses are also blamed for the increase in respiratory ailments.

### 3.2.5. Shame

All people mentioned feeling ashamed of themselves for the decisions they made and for the life they presently lead. Among the origins of the shame they mentioned are the following.

A. The shame of encroaching (or being forced to encroach) on somebody else's land.

B. Shame for the place given them. The Chapter people native to the area give derogatory names to these unsuitable locations along the cliffs over the San Juan River.

C. Shame for agreeing to relocation. People recounted how they boasted to those unaffected about the better house and land they were promised upon relocation. They reported intense embarrassment when they saw what they would actually get.

D. Shame for the delinquency of children. As a result of this shame the relocatees feared further ridicule not only from their neighbors in their original homelands but from those who still own land in the Fruitland areas. Thus a decrease in socializing with neighbors attends the isolation brought on from being parted from kin.

The idea of shame deserves mention. The Navajos maintain that children mature by progressing through various stages of thought and essential learning. If a maturing individual does not learn to do the proper thing at the proper time he or she never will. Thus, if a juvenile exhibits improper behavior, the parents tend to blame themselves for not instilling the proper thought at the proper time. And once the mistake has been made, it cannot be corrected.

The behavior of the young becomes especially aggravating to some parents even when the behavior in question is participation in organized sports, let alone delinquent behavior. Both activities are labeled by the older people as dóhashkał, or foolishness. It is meaningless in the sense that the activities contribute nothing to one's thought or development.

### 3.2.6. Delinquency and Morality

Delinquency here has various causes and effects. Essentially it signals a breakdown in social organization and informal controls.

A. Gangs of youth engage in theft and vandalism against their poor neighbors.

B. Delinquent activity is often preceded by drinking.

C. Girls and boys within the same clan consort with each other, resulting in a breakdown of family continuity.

Marriage within the same clan is roughly equivalent to first-cousin marriage among Americans.

D. Teenage pregnancy and venereal disease incidence increases.

E. Marriage partners (usually husbands) who do not possess the grazing permit either run off with available money or drink themselves into bad health and death.

F. Suicide and attempted suicides increase.

Topper (personal communication) has observed that of all his recent mental health referrals in the Western Agency PHS, over three fourths of them are relocatees from the former Joint Use Area, who are experiencing a similar relocation.

### 3.2.7. Loss of Internal Leadership

Several women remarked that "there are no men around here anymore."[5] In explanation they maintained that the men who did not inherit sheep permits ran off or died, leaving the females as household heads. One man remarked that he was the last survivor of his parents and three brothers.

A few women maintained that while they were the ones who could ordinarily speak out at chapter meetings, they still felt more intimidated and vulnerable when alone at their homes. Men, they maintained, were more able to band together from various households to lend defense and strength. The isolation of women, both psychological and spatial, is thus increased.

### 3.3. The Third Generation

The Second Generation did not hold the grazing permit when the relocation was made but they often did decide to vote in favor of selling. While they had little choice some reported feeling ashamed for urging their parents to capitulate and not resisting. The third generation, on the other hand, are defined as having had no say in the matter because they were too young at the time to be consulted. Their reactions parallel those of the older people because of the idleness brought about by poverty. The idleness is further compounded, however, by the increased difficulty in finding jobs, especially in the summer.

While jobs are available in Farmington, people complained that working there is less desirable because:

A. Compatible friends do not work there.

B. People in Farmington (Navajos included) are considered unfriendly and tending to discriminate.

Others said that they would move away to obtain schooling so that they could move back and take advantage of an apparent wide choice of jobs. Farming is considered enjoyable and a good way of earning a living.

They also joined their parents in sharing the embarrassment in the homes' locations. One youth added to his mother's statements of shame and loneliness by citing that shame prompted him to stay away from home as much as possible. This resulted in delinquency, he maintained, because while away he would drink with his peers.

They too reported feeling strongly for what happened to their parents and grandparents and resenting the way the relocation was done. They therefore mentioned the same effects, including a high attrition rate for the older men: "only women seem to live here now, with their kids".

Finally, they joined the other two generations in hoping that NAPI, the agribusiness concern, would go out of business so they could get their land back.

On the other hand, some appear to differ from the older generations in their acceptance of certain lifestyles. For example, there were fewer complaints about the proximity of houses. In fact, some complained of the isolation and the difficulty it caused them in reaching school, rather than the crowdedness.

Those few who reported having livestock planned to attempt stock raising by pasturing sheep or cattle in land away from the farm and utilizing the alfalfa as fodder. This is cited as difficult because of the relatively small acreage of the farm site leases, however.

### 3.4. Discussion

It appears that the fears of the people of Burnhams are based on the same information we obtained: the experiences recounted by the relocatees. Since the areas lie next to each other, some of the Upper Fruitland relocatees have relatives (and thus possible landholdings) in the Burnhams area.

Thus, the Burnhams peoples' anxieties of the future reflect the present of Fruitland: idleness, anxiety, loneliness, and shame. It is these effects which the Burnhams people are trying to mitigate, and which will emerge in the next section.

The following tabulation is a comparison of the relative percentages of individuals who reported certain problems. These were volunteered from open-ended interviews and not elicited by survey questionnaire. Notice especially the differences between the Third Generation and the other two.

## TABLE II
## Tabulation of Complain by Attribute

| ATTRIBUTES | FIRST GENERAT. | SECOND GENERAT. | THIRD GENERAT. |
|---|---|---|---|
| | Total 12 | Total 19 | Total 7 |
| WRONG PLACE OF RELOCATION | # of complaints | # of complaints | # of complaints |
| Houses too close together | #7 58.3% | #13 68.4% | #4 57.1% |
| Houses near Anasazi Ruing | #5 41.7% | #11 57.9% | #5 71.4% |
| Houses near cliff, on edge of cliffs (falling rocks) | #6 50% | #13 68.4% | #4 57.1% |
| Town too close to my house | #6 50% | #11 57.9% | #0 0% |
| Roads too close to my house | #4 33.3% | #15 78.9% | #7 100% |
| Encroachment on somebody's property | #7 58.3% | #15 78.9% | #5 71.4% |
| My house on a rocky place | #5 41.7% | #12 63.1% | #3 42.9% |
| Area of relocation too small | #7 58.3% | #13 68.4% | #5 71.4% |
| Too much cross winds | #6 50% | #9 47.4% | #4 57.1% |
| HEALTH | | | |
| Respiratory ailments | #5 41.7% | #12 63.1% | #4 57.1% |
| People can't fight colds anymore | #5 41.7% | #12 63.1% | #4 57.1% |
| Even the healthy and hardy fall | #8 66.7% | #12 63.1% | #5 71.4% |
| Colds are more common now | #6 50% | #12 63.1% | #6 85.7% |
| Psychological breakdown | #8 66.7% | #12 63.1% | #6 85.7% |

| ATTRIBUTES | FIRST GENERAT. | SECOND GENERAT. | THIRD GENERAT. |
|---|---|---|---|
| POOR HOUSING DESIGNS | Total 12 # of complaints | Total 19 # of complaints | Total 7 # of complaints |
| Holes and cracks in wall....... | #5 41.7% | #11 57.9% | #4 57.1% |
| Inadequately built fireplace (sootaccum/ceiling)............ | #6 50% | #11 57.9% | #4 57.1% |
| Houses are cold and drafty..... | #5 41.7% | #17 89.5% | #2 28.6% |
| Houses are too small for present or future family............. | #7 58.3% | #14 73.9% | #4 57.1% |
| Windows are too high........... | #5 41.7% | #9 47.4% | #0 0% |
| Plumbing designs are inadequate. | #5 41.7% | #9 47.4% | #2 28.6% |
| Cracked floor tiles............ | #5 41.7% | #9 47.4% | #2 28.6% |
| Dust come thru the windows and doors........................ | #6 50% | #14 73.7% | #4 57.1% |
| Porch too small................ | #7 58.3% | #15 78.9% | #7 100% |
| No screen doors................ | #5 41.7% | #12 63.1% | #4 57.1% |
| Few or no outlets.............. | #4 33.3% | #8 42.1% | #2 28.6% |
| CHILDREN (3rd GENERATION) | | | |
| Have nothing to do............. | #6 50% | #11 57.9% | #4 57.1% |
| Children turn to drinking...... | #4 33.3% | #6 31.6% | #2 28.6% |
| Children dropout of school..... | #5 41.7% | #9 47.4% | #2 28.6% |
| IDLENESS | | | |
| No sheep or farmlands.......... | #7 58.3% | #15 78.9% | #4 57.1% |
| Women can't weave.............. | #6 50% | #14 73.7% | #3 42.9% |
| Can't attend chapter meetings and speak up................. | #8 66.7% | #13 68.4% | #6 85.7% |
| No good grazing land........... | #9 75% | #4 21% | #4 57.1% |
| Loss of sheep to (predators).... | #4 33.3% | #5 26% | #4 57% |
| No jobs........................ | #9 75% | #18 94.7% | #4 57.1% |

| ATTRIBUTES | FIRST GENERAT. | SECOND GENERAT. | THIRD GENERAT. |
|---|---|---|---|
| SECURITY | Total 12 # of complaints | Total 19 # of complaints | Total 7 # of complaints |
| Afraid of losing temporary jobs.... | #2 16.7% | # 7 36.8% | #6 85.7% |
| Afraid they may go hungry.......... | #8 66.7% | #14 73.7% | #6 85.7% |
| Afraid of trouble from drunks...... | #6 50% | #10 52.6% | #5 71.4% |
| No knowledge of Gr. Permit of comp. | #7 58.3% | #10 52.6% | #4 57.1% |
| Afraid of financial difficulties... | #9 75% | #14 73.7% | #6 85.7% |
| Afraid of wool or coal shortage.... | #9 75% | #5 26.3% | #6 85.7% |
| Afraid of children will turn to drinking because town is too close | #6 50% | #14 73.7% | #0 0% |
| NEWLY ACQUIRED EXPENDITURES | | | |
| Expensive appliances............... | #2 16.7% | #7 36.8% | #6 85.7% |
| Meat (mutton from stores).......... | #8 66.7% | #17 89.5% | #6 85.7% |
| Repairs (utilities)................ | #5 41.7% | #11 57.9% | #3 42.9% |
| Payment to somebody that hauls wood and coal for me............. | #4 33.3% | #3 15.8% | #5 71.4% |
| LP propane......................... | #7 58.3% | #17 89.5% | #5 71.4% |
| Payment for wood and coal for my fireplace.................... | #6 50% | #9 47.4% | #0 0% |
| IMMOBILITY | | | |
| They feel confined and isolated.... | #6 50% | #15 78.9% | #4 57.1% |
| They feel uncomfortable with their location......................... | #7 58.3% | #15 78.9% | #5 71.4% |
| Due to having no livestock, no more responsibility.............. | #8 66.7% | #16 84.2% | #7 100% |
| Causes one to get depressed........ | #8 66.7% | #16 84.2% | #6 85.7% |
| Due to having no farm to raise crops.......................... | #8 66.7% | #16 84.2% | #5 71.4% |

| ATTRIBUTES | FIRST GENERAT. | SECOND GENERAT. | THIRD GENERAT. |
|---|---|---|---|
| | Total 12 | Total 19 | Total 7 |
| | # of complaints | #of complaints | # of complaints |
| Encroachment on somebody's property | #6 50% | #14 73.7% | #5 71.4% |
| Feel foolish for relocating | #7 58.3% | #14 73.7% | #5 71.4% |
| Ashamed of the place given them | #7 58.3% | #14 73.7% | #5 71.4% |
| Never go visiting anymore | #6 50% | #16 84.2% | #2 28.6% |
| Feel foolish for spending all the royalties | #6 50% | #14 73.7% | #4 57.1% |
| For living in a dusty windy place | #6 50% | #15 78.9% | #3 42.9% |
| Not possessing anymore sheep or farmland | #7 58.3% | #16 84.2% | #4 57.1% |
| No grazing permit | #7 58.3% | #17 89.5% | #7 100% |
| People think of us as being foolish for giving in | #7 58.3% | #15 78.9% | #4 57.1% |
| They didn't pay for land | #5 41.7% | #14 73.9% | #5 71.4% |
| MORALITY | | | |
| Husbands run off or gone | #4 33.3% | #3 15.8% | #0 0% |
| Younger people run around and girls bring men home and vice-versa | #2 16.7% | #4 21% | #0 0% |
| Crime and delinquency committed by juvenile | #3 25% | #8 42.1% | #0 0% |

| DEMANDS | | | |
|---|---|---|---|
| 20 acres of farmland | #8 66.7% | #17 89.5% | #6 85.7% |
| Better land conditions for farm | #8 66.7% | #17 89.5% | #7 100% |
| Better roads | #11 91.7% | #19 100% | #5 71.4% |
| More compensation for permit | #9 75% | #15 78.9% | #6 85.7% |
| Better housing | #9 75% | #17 89.5% | #6 85.7% |
| Compensation for land usage | #8 66.6% | #15 78.9% | #7 100% |
| Better homesites | #8 66.6% | #15 78.9% | #7 100% |
| Should have kept some livstock | #8 66.6% | #11 57.9% | #7 100% |
| Plumbing (outside water facet) | #3 25% | #7 36.8% | #5 71.4% |

## 4. THE MITIGATION OF COSTS: THE NAVAJO DECISION PROCESS

All Navajos in Burnhams, with whom we interviewed, maintained that the basic choice of having the mine or not having the mine (i.e. a "go" vs. "no-go" option) is not available to them. Most agreed that the mining would begin eventually and that there is nothing they can do to stop it. Thus, the comparison of costs and benefits as a means of deciding whether or not to accept development does not emerge as a topic of discussion by Burnhams residents. What they have attempted to calculate is the mitigation of these costs. Mitigating the costs, here, involves not the affixation of an absolute value either to social costs or to proposed tradeoffs; it involves identifying a set of tradeoffs which correspond roughly to a set of costs. Thus, the tradeoffs identified by the Burnhams Navajos are ranked against each other, somewhat like an ordinal scale.

The question then arises as to how Navajos achieve this ranking. It is theoretically unlikely that any form of statistical reasoning was used (Tversky and Kahneman, 1974; Gladwin, 1975), and no empirical evidence emerged from public speeches and interview information from the Burnhams residents themselves. Essentially, the ranking was hypothesized, by the research staff, by first eliciting and recording tradeoffs proposed in interview and public gatherings. These were then ranked by determining the order in which they are considered. Thus, those considered first are the most important. Moreover, the interviews revealed that if one ranked tradeoff is not negotiated to the satisfaction of those demanding it, it is useless to request all others which would follow. Each tradeoff, in effect, provides the conditions necessary for the others which follow to serve also as tradeoffs.

It follows, then, that these people have been considering the tradeoffs (either consciously or non consciously) in a linear and hierarchical order. That is, the most encompassing, inclusive, or important tradeoffs are considered first, and each which follows is at least partly included in its predecessor (i.e. in a part-whole relationship), is a kind of its predecessor (i.e. in a taxonomic relationship), or is directly caused by it (i.e. in a relationship of strong implication or "if-then").

Finally, these relationships between the tradeoffs imply that this whole ranking procedure can be represented in a linear decision model. That is, peoples' decision-making processes can be represented as a series of steps in which individuals ( or groups of individuals) perceive a set of conditions in the real world, choose a set of actions allowing them to cope with the conditions, and then check to see if the conditions have been met. Psychologists such as Miller, Galanter and Pribram (1963) have referred to this perception and coping process as a TOTE unit, where TOTE is an acronym for "Test-Operate-Test-Exit." "Test" involves perception and identification of conditions; "Operate" denotes the activities used for coping with the conditions; "Test" is again performed to see if the coping operation is successful, and "Exit" denotes advancing to the next question, or TOTE unit.

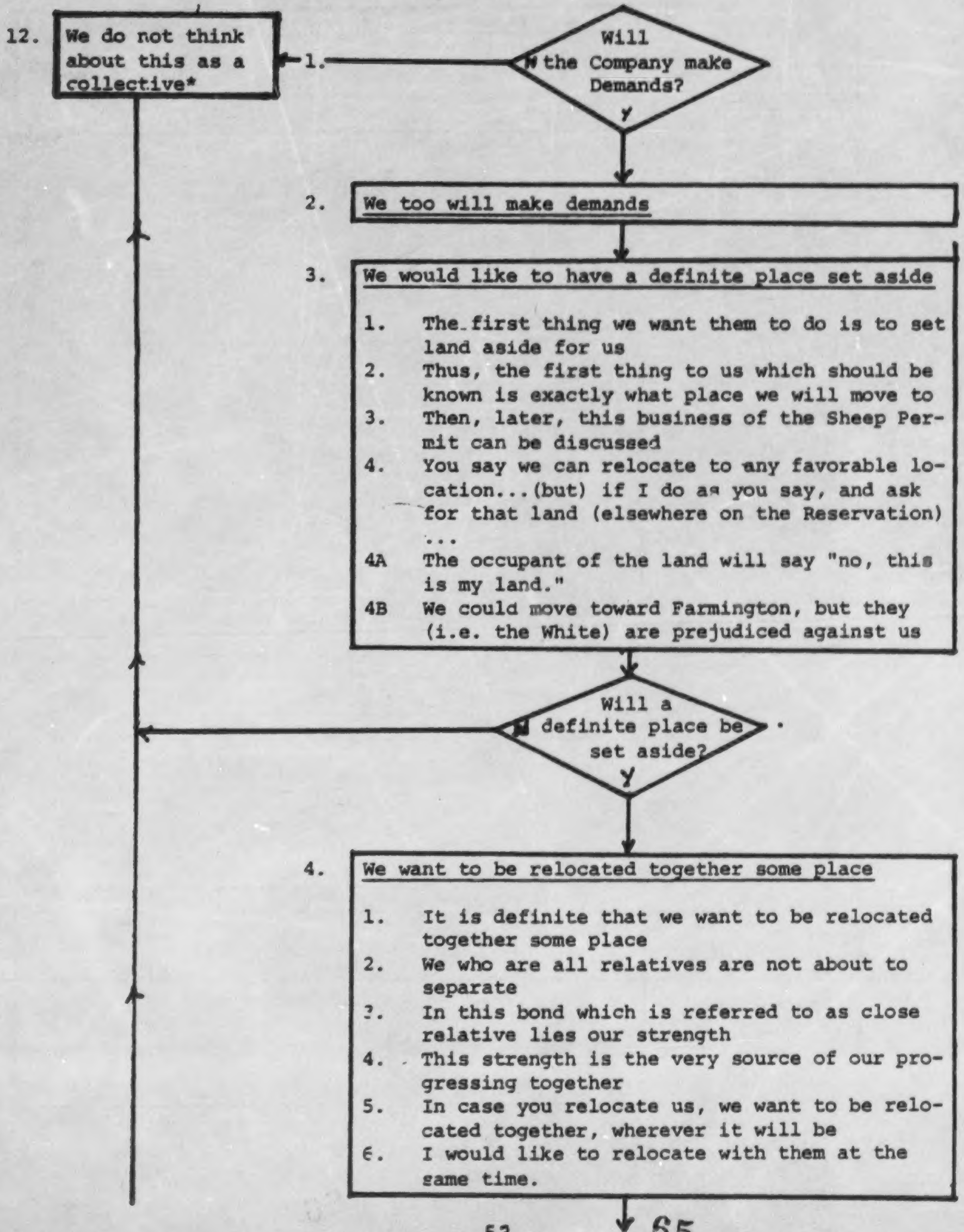
Other disciplines in the social sciences have resorted to such modeling (with varying degrees of precision) including anthropologists, where agricultural behavior, economic calculations, and even daily activities have been studied (see 0.2.2.).

## 4.1. Prioritizing What is Valuable to a Way of Life

In Table III a decision model is presented which represents how important the major social cost mitigations are. The diamonds represent the questions people ask themselves and each other to assess conditions for needed actions (i.e. "Test"). Each question is phrased for a "yes-no" answer. The rectangles represent the action taken (i.e. "Operation") designed to meet the identified need. Each operation rectangle includes a folk definition enumerating the conditions justifying our inclusion of it in its given location. Actually, each numbered sentence attribute could be written as a condition diamond. However, for the sake of brevity we have chosen to list them as folk definitions (See 0.2.2.).

## TABLE III

### Linear Decision Model of Cost Mitigations



12. We do not think about this as a collective*

1. Will the Company make Demands?

2. We too will make demands

3. We would like to have a definite place set aside

1. The first thing we want them to do is to set land aside for us
2. Thus, the first thing to us which should be known is exactly what place we will move to
3. Then, later, this business of the Sheep Permit can be discussed
4. You say we can relocate to any favorable location...(but) if I do as you say, and ask for that land (elsewhere on the Reservation) ...

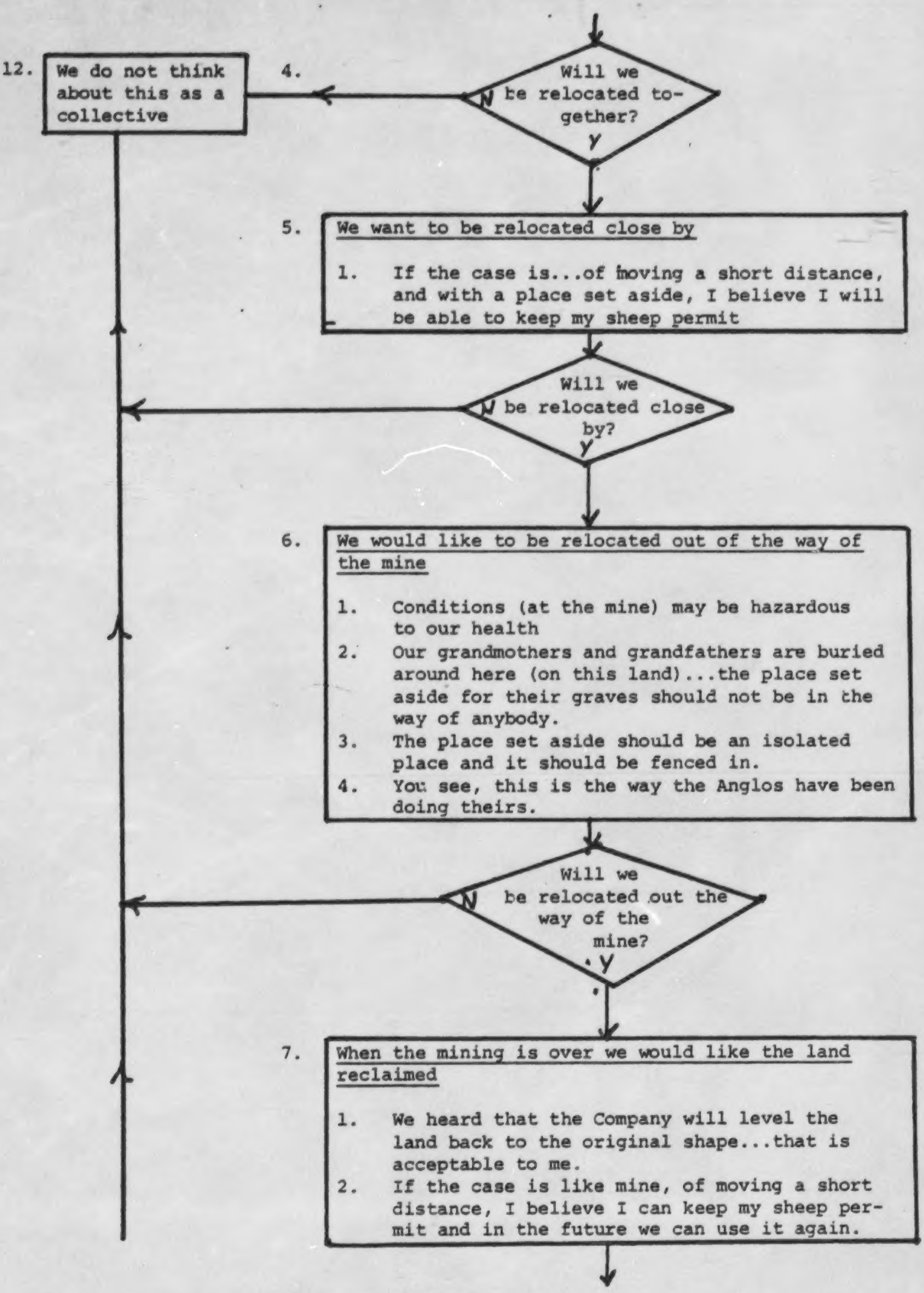
4A The occupant of the land will say "no, this is my land."

4B We could move toward Farmington, but they (i.e. the White) are prejudiced against us

Will a definite place be set aside?

4. We want to be relocated together some place

1. It is definite that we want to be relocated together some place
2. We who are all relatives are not about to separate
3. In this bond which is referred to as close relative lies our strength
4. This strength is the very source of our progressing together
5. In case you relocate us, we want to be relocated together, wherever it will be
6. I would like to relocate with them at the same time.



12. We do not think about this as a collective

4. Will we be relocated together?

5. We want to be relocated close by

1. If the case is...of moving a short distance, and with a place set aside, I believe I will be able to keep my sheep permit

Will we be relocated close by?

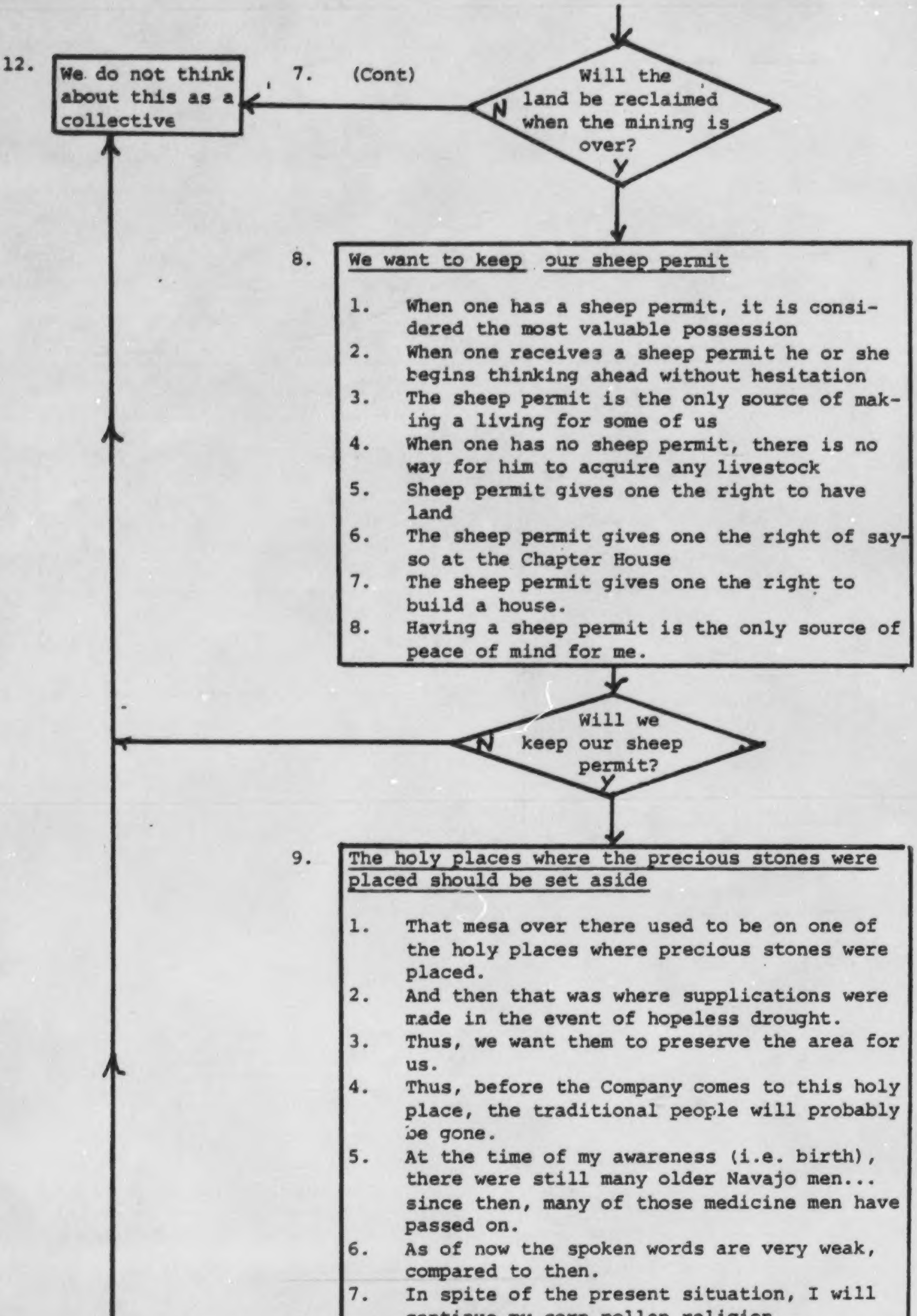
6. We would like to be relocated out of the way of the mine

1. Conditions (at the mine) may be hazardous to our health
2. Our grandmothers and grandfathers are buried around here (on this land)...the place set aside for their graves should not be in the way of anybody.
3. The place set aside should be an isolated place and it should be fenced in.
4. You see, this is the way the Anglos have been doing theirs.

Will we be relocated out the way of the mine?

7. When the mining is over we would like the land reclaimed

1. We heard that the Company will level the land back to the original shape...that is acceptable to me.
2. If the case is like mine, of moving a short distance, I believe I can keep my sheep permit and in the future we can use it again.

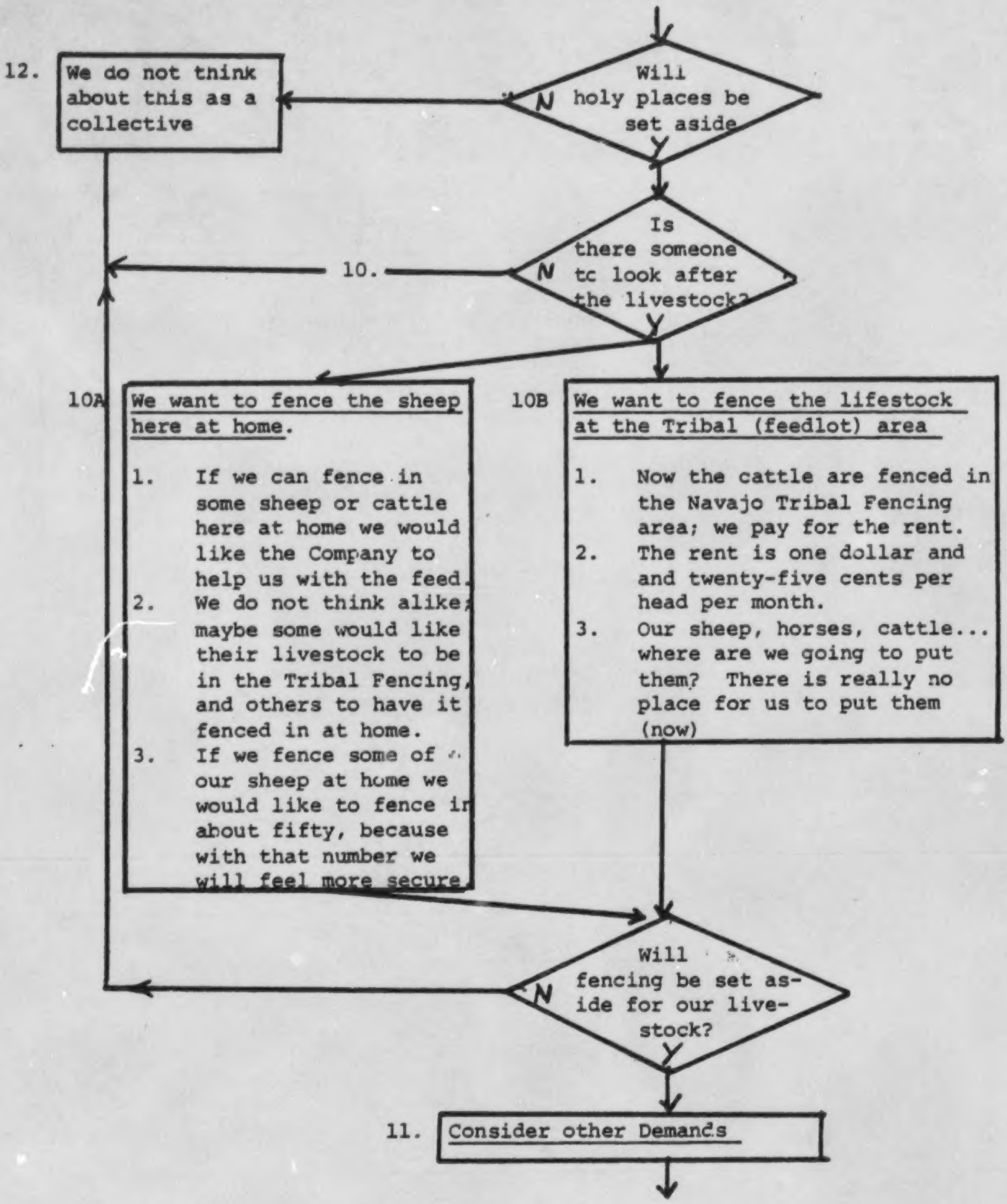

12.
We do not think about this as a collective
7. (Cont)
Will the land be reclaimed when the mining is over?
N
Y
Will we keep our sheep permit?
N
Y

8. **We want to keep our sheep permit**

1. When one has a sheep permit, it is considered the most valuable possession
2. When one receives a sheep permit he or she begins thinking ahead without hesitation
3. The sheep permit is the only source of making a living for some of us
4. When one has no sheep permit, there is no way for him to acquire any livestock
5. Sheep permit gives one the right to have land
6. The sheep permit gives one the right of say-so at the Chapter House
7. The sheep permit gives one the right to build a house.
8. Having a sheep permit is the only source of peace of mind for me.

9. **The holy places where the precious stones were placed should be set aside**

1. That mesa over there used to be on one of the holy places where precious stones were placed.
2. And then that was where supplications were made in the event of hopeless drought.
3. Thus, we want them to preserve the area for us.
4. Thus, before the Company comes to this holy place, the traditional people will probably be gone.
5. At the time of my awareness (i.e. birth), there were still many older Navajo men... since then, many of those medicine men have passed on.
6. As of now the spoken words are very weak, compared to then.
7. In spite of the present situation, I will continue my corn pollen religion.


Will holy places be set aside
N
Y
Is there someone tc look after the livestock?
N
Y
10.
10A
10B
Will fencing be set aside for our livestock?
N
Y
12.
11.
*

12. We do not think about this as a collective

10A **We want to fence the sheep here at home.**

1. If we can fence in some sheep or cattle here at home we would like the Company to help us with the feed.
2. We do not think alike; maybe some would like their livestock to be in the Tribal Fencing, and others to have it fenced in at home.
3. If we fence some of our sheep at home we would like to fence in about fifty, because with that number we will feel more secure.

10B **We want to fence the lifestock at the Tribal (feedlot) area**

1. Now the cattle are fenced in the Navajo Tribal Fencing area; we pay for the rent.
2. The rent is one dollar and and twenty-five cents per head per month.
3. Our sheep, horses, cattle... where are we going to put them? There is really no place for us to put them (now)

11. **Consider other Demands**

* Translated from the Navajo doo bee adaanitsídeekees-da, it denotes actual resistance, rather than deferral, since thinking about the development facilitates it.

### 4.1.1. Will the Company Make Demands?

The first diamond does not denote rank. It ascertains whether the losses stemming from a proposed strip mining (including loss of sheep permit) and relocation must be sustained to begin with. A "yes" answer implies that the Tribe and Company have made the demands and have offered no choice other than a "go" option. The outcome in the rectangle immediately following, to make demands, initiates the rest of the decision process.

### 4.1.2. Will a Definite Place be Set Aside?

Without assurance of land, no further plans have been made. Some who have land nearby and only have to move a short distance, have acquiesced. Assurance of such land implies possibility of sheep permit retention, in-tact family relocation, etc. If it is not met, it must be demanded. At the time of this report, no allowance had been made for land. Attempts by the Tribe and Bureau of Land Management to purchase land on the Paria Plateau, in Utah; House Rock Valley in Arizona; or areas around Farmington and Bloomfield have been met with non-Navajo resistance.

### 4.1.3. Will We be Able to Relocate Together?

This condition ascertains whether the psychological and social costs mentioned in 2.1.2. could be averted. Much of the insistence for relocating together is explained by the importance of the ethics of k'é (close relative) and náás ahiijih (we progress together) discussed in 2.1.2. These denote the importance of the web of reciprocity and of the equality through which decisions are made, changes understood, people learn, economic assistance made possible, and the years of emotional familiarity preserved.

### 4.1.4. Will We Relocate Close By and Out of the Way of the Mine?

Most of those who acquiesced to relocation (who had some place to go) have land sites chosen which were not more than three or five miles away from their present sites. Thus, for these people, relocation is far different than relocation in the former Joint Use Area, where distances of scores or even hundreds of miles are involved.

Most reported that they planned to move no further than necessary to be "out of the way of the mine." That is, they want to be a safe distance from blast damage, fumes, and other potentially polluting conditions. This would also balance any psychological costs associated with the removal of familiar relatives mentioned in 2.2.

It is here that we include those from Sanostee and Red Rock, where no strip mining is anticipated. If they relocate at all, the considerations which follow are not found to differ significantly.

### 4.1.5. Will the Land be Reclaimed?

Most people hope that they could get their original land back and return their household to the original sites. Ideally, they would receive at least some of the rent from the Company for its use.

Interestingly, they assume (or at least hope strongly) that the land can be reclaimed to begin with. Moreover, many hope it can be restored to a condition better than the present. These hopes are based on what they have seen around the McKinley Mine's restoration attempt and what the Company has shown them (or some of the leaders) of what has been going on in the Eastern United States and Germany. Some leaders, in fact, were taken on tours of Germany by the Company.

Perhaps of this exposure, some expressed optimism about reclamation and mentioned the possibilities that

A. The depth of overburden (cited at 20 feet) would allow recovery of topsoil with little mixing of lower gravel.

B. Fertilizer would be added.

C. Sufficient water was available through catchment, wells, and irrigation,.

D. The land's productivity could later be improved through fencing and better co-operative range management.

Many, however, were also well aware of how questionable such hopes are. They want more research to be done on the viability of grasses and land contours. They specified that the land contour should be flat, not rolling, and that the topsoil and bottom should not be mixed.

This decision point relates only to *restoration* of the land, and makes few allusions to other possible improvements which the Company could conceivably provide. They must first know if they can get their land back so that they will know what to do with their sheep permits.

### 4.1.6. Will We be Allowed to Keep our Sheep Permit?

The Grazing Permit as certificate of citizenship and subsistence has been noted before. Interestingly the decision point denoting the permit is placed after that denoting the land, even though some stated that it is a means to land. Apparently the permit is considered here as a means of *keeping* or *inheriting* land, rather than a way of *obtaining new land*.

### 4.1.7. Will Sacred Places be Preserved?

There are three main religious affiliations in the Burnhams Area: Christian, Traditional and Native American Church. The Traditionals voiced concern that certain sacred areas placed on the earth for their benefit (nitl'iz) would be destroyed. These areas are important as places of offering in the event of extreme drought and other hardship. Therefore, they figure as important in the proper maintenance of the land and of life in general. Without these, livestock cannot be properly raised and a living properly made.

Some of the traditionalists were not hopeful that their requests would be honored because of the large numbers of adherents to other religions. They therefore hoped that the places would be maintained only until they died. However the other religious adherents indicated that they would stand behind these requests in order to present a united front with the families affected. This justifies our inclusion of this question.

### 4.1.8. Will Someone Look After the Lifestock? Will Fencing be Set Aside for the Livestock?

Many people expressed a desire to keep at least some of their livestock. Two options have emerged. One is to have the Company pay for storage and feed at the Navajo Agricultural Products

Industries (NAPI) feedlots. The other is to reduce the number of stock temporarily and enclose them near the living premises. The decision as to which one to take depends on how much help people expect from their sons and daughters. Those preferring the latter can expect less help and reported that they must look after livestock themselves. Those preferring the former could expect more help.

The feedlot approach requires having sons and daughters (or other relatives) in order to protect the family against loss and theft at the feedlot. Those favoring temporary reduction are often older people who fear theft and misplacement. They hope that if the stock are reduced temporarily to about 50 head of sheep, the minimum number needed for survival, the number can be increased afterward.

### 4.1.9. Recapitulation: If the Demands are not Met

### 4.1.9.1. Resistance

The above questions and demands appear to denote the most important immediate attributes of a peoples' way of life. If each one is not met, the option (or outcome) translates as "we do not think about these as a collective." That is, they will not even discuss any further action in favor of the mine among themselves, let alone do anything. All negotiation stops. Thus, the act of not thinking about something is considered active resistance; it is not the neutral deferral of a decision until further information is forthcoming.

A second implication is that the Burnhams Navajos place great importance on the power of thought and on the spoken word in bringing about the occurrence of events. Thus, if people think too far ahead without considering intermediate conditions in detail, the event will occur too quickly and overwhelm them. People at Burnhams maintained that they therefore want to think each point through until they feel secure that all options and details have been examined. Once all have progressed to a point, one of their group respected for judgement, intelligence, honesty and oratorical ability speaks on their behalf at chapter meetings.

They pointed out that outside corporate interests and the Tribe ignored this emphasis on thought and constantly urged them to "hurry up and make a decision." This, in turn, has made them even more cautious and suspicious.

Moreover, if what the spokesmen of one kin group say is too far advanced from the others, the whole group is "branded." "Branding" is serious because the stigma of branding cannot be broken and the discredited individuals face a future of exclusion from the decision-making process. Factions form not only against the stigmatized individuals, but against whole kin groups.

### 4.1.9.2. Reparations: "We Too Can Make Demands"

Other demands have been made, but the explanations given these are insufficient for determining relative value. In fact, many of them appear to be reparations demands. That is, they were stated in public meetings and punctuated with sarcastic comments for the benefit of Tribal officials in attendance. These demands are listed in the following table.

TABLE- IV
UNSTRUCTURED LIST OF DEMANDS
(See Appendix 4-2)

1. We want better job conditions and opportunities

    A. We want to have first priority for jobs given to people working here.
    B. For those already working, we want higher wages for them than they are presently making.
    C. We want on-the-job training with wages
    D. We want jobs close to home.
    E. We want jobs for people without age discrimination /toward older people especially/.

2. We want better houses built for us...

    A. They should have electricity
    B. " " " piped-in water
    C. " " " a large kitchen with all necessary appliances
    D. " " " a storage shed /for tools/
    E. " " " paved roads nearby
    F. " " " wood stoves to burn coal
    G. " " " two bathrooms.

H. " " " four or five bedrooms
I. " " " a porch
J. " " " a brick fireplace in the living room
K. " " be built of brick and stone
L. " " " well-insulated
M. " " " built strong
N. " " " near a telephone

3. We want a better chapter house.

A. It should have electricity
B. " " " piped-in water
C. " " " a large kitchen with all necessary appliances
D. " " " a conference room
E. " " " a public telephone
F. " " " a larger meeting room
G. " " " four office spaces
H. " " " a larger laundromat, with at least ten washing and drying machines.
I. " " " a workroom for programs, arts and crafts.

4. We want a better school building.

A. It should have more grade levels [Including 1 & 2]
B. " " " " facilities

5. We want a better rodeo ground. It should have more up-to-date facilities, like Albuquerque's Tingley Coliseum.

AFTER THE COMPANY HAS GONE...

1. Some coal should be set aside. It should be good coal, with no rocks in it.

A. Some of the coal area should be preserved and a fence put around it.

1. A thick layer of topsoil should be left covering the preserved coal
2. It will belong to the Chapter
3. The Company should uncover it as the Chapter people need it.

B. Some coal should be delivered to individual houses. If it is placed in one area, people from within the chapter will fight over it.
If it is placed in one place, people from outside the chapter will take it away.

1. The coal should be in large chunks, not in small ground-up pieces.

    2. The Coal Company should deliver it.
    3. It should be delivered only toward the winter; [it is not needed in the summer]
    4. It will take more than 3 pickup loads [possibly more like 10]

2. The land should be reclaimed.

    A. It should have new topsoil on it.
    B. The old topsoil should be replaced [at least]
    C. The Company should research the proper grasses to grow in the area.
    D. Maybe a variety of grasses can be placed there.

3. The Company should be responsible for erosion.

    A. The soil shouldn't be loose.
    B. The Company should be responsible for the land until the grass takes root.
    C. There should be no rolling hills because when it rains, the soil is washed away.

4. There should be adequate water for stock.

    A. Some land should be fenced in for stock watering [there is reportedly runoff water near the trading post site]
    B. The Company should allow places to catch rainwater.

Other officials who have reviewed this table have observed that even if these demands are met, people will not necessarily be protected from suffering. The only apparent satisfaction is that they will have forced the Tribe and the Company to delay or to capitulate, unwillingly, just as these Burnhams Navajos anticipate capitulating unwillingly. We thus infer that these demands were made in reaction to the high-handedness of Tribal and Company officials.

### 4.2. Options other than Negotiation Toward the Mitigation of Social Costs

Not everybody adheres to the decision model in 4.1. ff. The question is not whether there is variation in the order of importance of the items. Rather, the issue is whether the Navajos living in the affected areas would consider negotiation for mitigation of social costs at all. Thus, 100% of a sample of 15 individuals, not previously interviewed, from Burnhams, Fruitland, Shiprock and Sanostee, were shown the model and they agreed that the order was proper. However, some pointed out that while they consider this negotiation-for-mitigation option the best one, they would negotiate *only if they were given a second chance to do so*. For some it was obviously too late because they had given away their land previously (see 3.1.). They pointed out three additional options which their neighbors have advocated, or still are advocating.

A. Unwilling capitulation to the mine and to demands for their land.

B. Non-compromising resistance and refusal to relocation, or negotiation.

C. Acceptance of the mine in the hopes of better jobs; more income, and more security.

### 4.2.1. Resistance

The option for resistance, as mentioned briefly in 4.1.9.1., translates into Navajo as doo bee adaanitsídeekees-da, or "we do not think for ourselves as a collective." As also discussed earlier, not thinking about the proposed event is perceived as a supreme form of resistance because it denies reality to the proposed event. Such resistance is manifested in behavior such as refusing to go to chapter meetings to vote for or against a proposed measure, refusing to discuss or negotiate the terms of the proposed change with anybody, and resorting to individual acts of violence against encroachment.

It appears that this option is resorted to when people have confirmed for themselves the assumptions that:

A. No way of life other than the present traditional one is possible or feasible.

B. No avenues toward negotiation for tradeoffs (or other means of social cost mitigation) are available because of Tribal or Company intransigence.

C. The consequences of total refusal are outweighed by the satisfaction of putting up a last good fight.

"A" is confirmed for the Navajos of Burnhams by absence of a guaranteed place to move to and the unsuitability of moving to Farmington, among others. "B" is confirmed by apparent refusal of the Tribe to negotiate for mitigation, and is further supported by the unconfirmed assumption that the longer the delay in accepting the terms of relocation presently proposed, the greater the likelihood of losing *all* one's land and any chance for whatever tradeoffs may have been promised. Thus, as one individual pointed out, "C" follows simply because "at least we will show Window Rock /i.e. the Tribal capital/ that we mean business."

Thus, resistance is simply the last ditch fight for a people who see themselves as being given no other choice. They refuse the shame of acquiescence and the frightening dependency upon the whim of economic and administrative entities. By fighting, they can say, in effect, that they have tried everything they could, and were cheated and made fools of by no one.

### 4.2.2. *Capitulation*

The first and second assumptions of capitualation and resistance are identical. No other way of life is feasible, and no avenues toward orderly negotiations are possible. It is on the third assumption that differences emerge: here, *the losses of total refusal far outweigh those of capitulation*. Apparently, this last assumption is based on the hopes that

A. some land can be retained;

B. relccation is only a short distance;

C. A long-term, informal, neighborly relationship can be established through which tradeoffs can be obtained.

The following definition illustrates how they confirm that the losses of resistance outweigh those of capitulation, and how an informal arrangement for tradeoffs can be established.

DEFINITION: *Why It is Not Good To Resist* (Appendix 4-3)

1. In the past I was totally against the Company, but since I began to consider it seriously and talk it over with my children I had a change of mind about it.
2. Some of the people are concerned about their late grandmother and grandfather; do you think it would be agreeable with the people if they set aside a reburial place for them?
3. The place set aside for this purpose should not be in the way of anybody; it should be an isolated place and it should be fenced.

4. You see, this is how the Anglos do.
5. If the Company would level the area after stripping the land, that would be all right with me.
6. After leveling we would like the Company to fertilize the place.
7. We would like the Company to reseed the area.
8. We would like the Company to fence in some of the area with running water in it, so we can use it to graze our cattle and horses on it.
9. I know for sure that the tumbleweed will grow immediately after it is leveled. You see, that is what happened at the other strip mine.
10. Surely, some have stated that when the topsoil and bottom are mixed, nothing will grow, but I know it will grow again.
11. When it rains it will grow again.
12. When we are favored from above it will rain with what is needed to make the plants grow; the dark cloud will cause it to come down to earth and surely it will grow.
13. Thus, I do think of all this very seriously; I am thus doubtful about accomplishing anything by our refusal.

The expectations of anticipated favors and reclamation are confirmed, for these Navajos, through conversations with Company representatives and workers. The following quote illustrates the sort of contact.

> Thus, I have asked some of the El Paso workers, and they showed me on the paper that the coal to be stripped was close to the surface. Prior to the time [of this question and answer] I had asked many questions, so I am sure that this whole area from here on out is the same [i.e. not too far down]. Only in this area close by here is the coal as deep as a little over 120 feet down. Thus, they said that this is how thick the dirt is above the coal; there is little rock.
>
> ...
>
> When the strip mining is completed I do not believe it will be rock; you see, the coal is not too far down in this area; the other strip mining was different; they were far down and in a very rocky area. I had already asked about this area and they told me.

(Appendix 4-4). Apparently, those Navajos opting for this decision assume that they can make requests as conditions arise. The Company is expected to respond immediately, in a spirit of friendship akin to the k'é (kin) or neighborly relationships. Notice that "neighbor" stands for the Navajo term nizhónígo bił ach'í'dahnaháatáago, and includes information on what it should be like. Examples of favors, and open-endedness of the relationship are especially important here.

DEFINITION: Peacefully, Face-to-Face (Appendix 4-5)

1. We would like the Company and workers to be friendly
2. We do not want them to hesitate when we ask for help; we are giving over the use of our land.
3. You see, sometime ago, El Paso neatly uncovered parts of the coal when I asked them...you see, tasks like these are some areas in which we can expect the Company to help us out.
4. These from El Paso are very kind; I don't know, maybe when they move in they will change.
5. I believe El Paso will really help us.
6. It is a kin-like relationship.

The folk definition also implies that there is some uncertainty as to whether the relationship will be established. To those who have already relocated (see 3.2.ff.) there is no uncertainty, just disillusionment and a feeling of foolishness for not having thought through the matter while one had the chance for resistance. Even Burnhams capitulators have changed to resistance after personal misfortune in dealing with the Tribe. In one instance it was reported that a group of residents went to the Tribal Resources Division to request aid after a cold snap had killed over 20 of their newly sheared lambs. They documented their loss by taking polaroid snapshots of the lambs stretched out side-by-side. Some of the officials reportedly joked (in Navajo) that the picture looked like a stringer of fish. The joke, in addition to its obvious lack of concern, was considered particularly rude in light of some Navajos' avowed religious dislike of eating fish.

In any event, it appears that the capitulation option carries with it the connotations of an attitude of passiveness and powerlessness as far as hopes for dealing with the Companies, and of protecting themselves, are concerned. Moreover, this belief may be based on a perceived inertia of events. People state that "they [I.e. outsiders] have done this [I.e. forced relocation] to us so many times before" and thus assume that there is nothing they can do. This view is reminiscent of a phenomenon frequently cited by sociologists elsewhere, in which people simply cease to interact with a bureaucratic organization which they neither understand nor can get to work for them (Jacoby, 1977).

### 4.2.3. Ready Acceptance of Energy Development

Those who favor energy development consider the same social costs as do the other Navajos choosing negotiation, resistance, or capitulation. However, to them these costs are nore easily balanced out by the possibility of enhanced income through wage labor because they do not see themselves as benefitting from life on the land. That is, they do not see themselves as having opportunity for land inheritance, for raising ample numbers of livestock, and of attaining sufficient status in their chapter to assume positions of leadership. For them, then, the mine is a chance to free oneself from a bleak future of low social status and uncertainty.

According to the Navajos interviewed there are six specific criteria one may use to define status and each criterion corresponds to a maturational (or life-cycle) stage in a person's At each stage, then, people must decide if they have the status and personal resources sufficient to remain on the land to progress to the next stage. These life-crises include questions of:

A. sufficient education to deal with market, monetary and technological challenges from the Anglo Culture;

B. availability of a job sufficient to support a family and household in face of insufficient resources from the land alone;

C. whether or not children are to be taught and provided for by means of life on the land or through wage work;

D. whether or not an individual has sufficient numbers of sheep (or other livestock) earmarked for inheritance;

E. whether at least a portion of the grazing permit would be inherited, entitling them to rights to land for their livestock; and

F. whether or not an individual had come to assume responsibility for caring for parents and older relatives who usually maintained a traditional attitude toward life on the land.

### 4.3.2.1. Education

"Sufficient education" can vary among individuals. However, it usually appears to mean having graduated from high school or (sometimes) college. As with the Dominant Society, one who is still in school cannot begin a fully adult life of work, family and other such. Such a view is especially prevalent with the Navajo, however, because the Reservation school systems are seen as functioning primarily to alienate the student from traditional Navajo family and social life far more than it is in the Dominant Society. Thus, students who are still in school reported that they feel reluctant to participate in chapter meetings because:

A. Nobody will listen to them and may ridicule them for not knowing anything about the adult life of their parents or grandparents.

B. They consider much of the procedural argument in meetings difficult to follow and to be pointless because they do not understand the Navajo language and style of discourse sufficiently.

At the time that their education is an initial hamper to adoption into the Chapter community, it makes moving off the Reservation feasible because they have presumably acquired the skills necessary for urban life in towns near the Reservation, such as Farmington.

### 4.2.3.2. Well-Paying Job

As mentioned previously, a negligible number of Navajos can make a living from livestock or farming alone. It follows, then, that wage work and land are actually symbiotic. On one hand, one must have a job in order to live on the land. On the other, one must have land in order to maintain economic security in face of job uncertainty.

Thus, once one acquires sufficient education, the availability of a relatively stable, well-paying job must be considered. Many of those favoring mining were aged 20-40 years, had schooling, but had found no job. They tend to welcome the mining because of expectation for employment. Some, however, reported disappointment because their jobs are not available or else are presently temporary construction jobs for which they can be easily laid off.[6]

### 4.2.3.3. Household and Family

If they do have work experience it follows that they also have the wherewithal for starting a family of their own. Here we are discussing those who still live on the land which they may inherit from their parents.

It appears that if these people have a well-paying job but do not have a family of their own to consider they will tend to be in favor of selling land, in the hopes that they can get a job which is better-paying and closer to where they live than the one they already have. On the other hand, if they have a wife and children to consider they may also have to begin considering their security and inheritance.

At this point a conflict in attitude emerges. Both those who wish to keep their land and those who wish for development and jobs see themselves as thinking ahead for their children and families (a'áłchíní bá náás nitsáhákees). The former maintain that the only way to provide for a child's moral and economic upbringing is through land and sheep. The latter maintain that this way of life is no longer possible for them and that their children should accept a total wage-work orientation. The question again involves the likelihood of land inheritance, and leads to the next question.

### 4.2.3.4. Magnitude of Sheep Permit Inheritance

The number of earmarked sheep can be seen as evidence of their competence and thus indicative of their eligibility to inherit the sheep permit. It follows that if they have a large herd of livestock they evidence a larger interest in the land. If their interest is small, they may decide to approve the sale of the permit and relocate with their new nuclear family to nearby land or land off-reservation.

### 4.2.3.5. Likelihood of Sheep Permit Inheritance

If people have education, good jobs, plans for the future of the family, and sheep earmarked, they are already well on their way toward achieving a lifestyle suitable for maintaining land. If the developers decide to buy the land on which they are located, they must decide on whether or not it will be their land. Thus, they may have to determine how much of their sheep permit is entitled them by how many sheep are earmarked. Respondents indicate that if they do not stand to inherit the permit, their best interest is to get paid for any sheep they can claim and move off-reservation. If they move off-reservation they have little choice other than to move to a border town or to buy farmland off-reservation.

### 4.2.3.6. Responsibility Toward Parents and Older Relatives

As an individual matures there is still considerable tendancy for him or her to assume both greater respect from, and responsibility for, their parents and in-laws. They would thus be favored for inheritance. A few respondents volunteered that when they first heard about the development they wanted to approve the mine, opt for land reclamation and receive rent for the land. As they considered the offers later, however, they recognized that their parents would suffer considerably if they were to be uprooted. Thus, they reported that once they began thinking about the worst that could happen to their parents they began to "think ahead for everything (t'áá ałtsoní bá náás nitsídzíkees dzizlíí'). This is equivalent to demanding tradeoffs and subsumes a leadership role.

Those who did not consider these aspects are again expected to "drop out," and accept a job out of hand.

### 4.3. Thinking Ahead for Everything: Leadership

This description of options in 4.2.3. carries rather dreary implications for those in favor of parting with their land; it implies that those who are most in favor of moving are those who have lost out, so to speak. They either

A. have no education

B. have education but no job,

C. have education and job but no family,

D. have education, job, family, and no hope of inheritance;

E. have education, job, family, and inheritance but too little inheritance to continue on land; or

F. have not assumed responsibility for the care of their older kin.

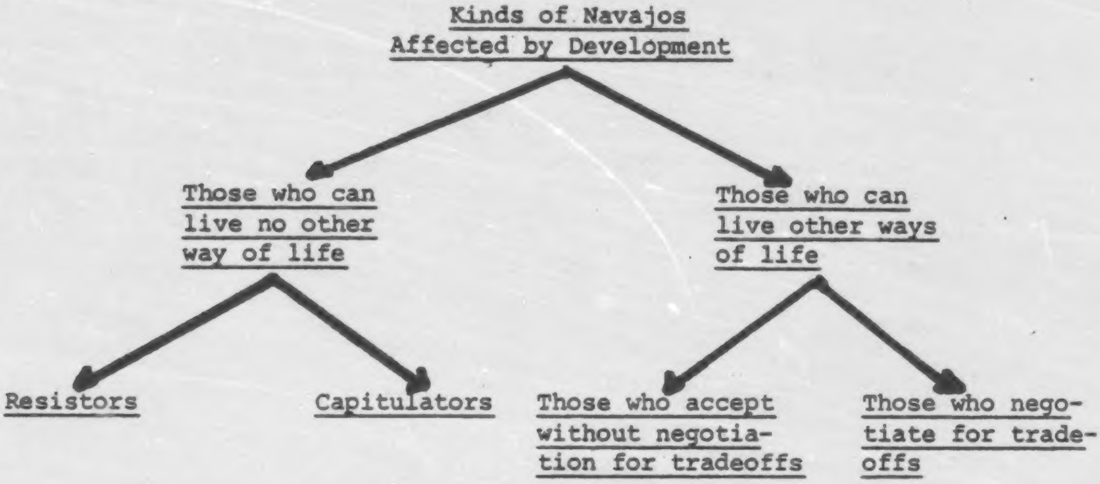
The latter ("F") further implies that if they have little responsibility for kin they also do not speak for them, and if all this is true, they are classed by older traditionals as not inclined to think ahead clearly or sensibly.

These admittedly dreary implications can be offset to a degree when it is considered that an individual who does manage to remain on the land through all the life crisis stages of 4.2.3. is an accomplished individual. Accomplishment is based on the fact that these individuals can mediate between the sharply divergent influences of Anglo education and traditional Navajo life. That they are in the minority is supported by school drop-out records, relatively low median educational attainment, and the oft-documented cognitive and social difficulties experienced by Navajo-speaking children placed in predominantly English-speaking environments.

## 5. THE SOCIAL COMPLEXITY OF DECISION-MAKING: THE VIEW OF THE NAAT'AANII, OR HEADMAN

### 5.1. A Composite Decision Model of Social Complexity

It is possible to diagram a taxonomy of individuals according to the options they could choose, as discussed in 4.2. ff. This could be done as follows:

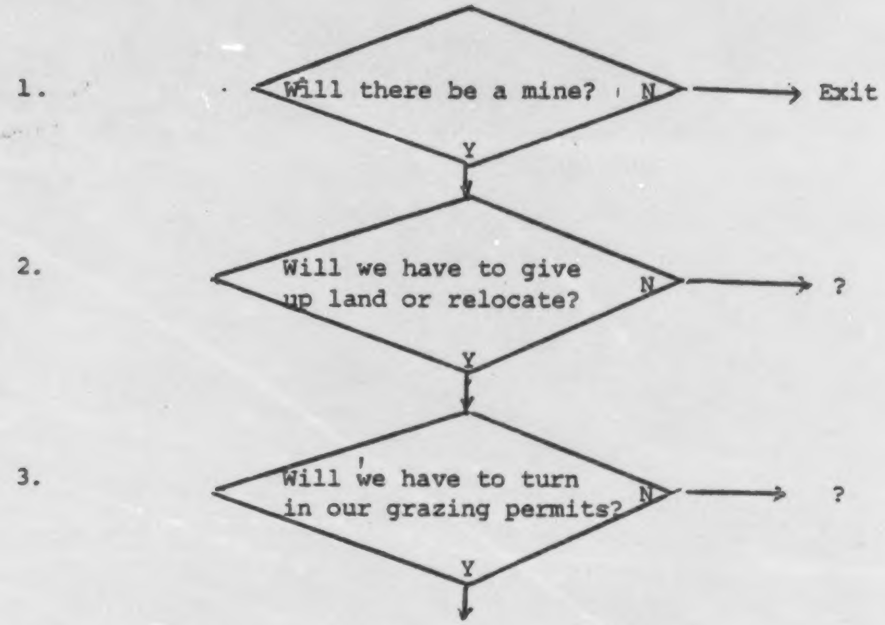

Kinds of Navajos Affected by Development
Those who can live no other way of life
Those who can live other ways of life
Resistors
Capitulators
Those who accept without negotiation for tradeoffs
Those who negotiate for tradeoffs

Each arrow (X ← Y) stands for "X is a kind of Y." The set terms at each level of the trees are in contrast to one another.

This taxonomy provides the means of relating the decision model in 4.1. to the options in 4.2., and the economic and social factors influencing these decisions. In other words, this taxonomy is the backbone of a composite decision model.

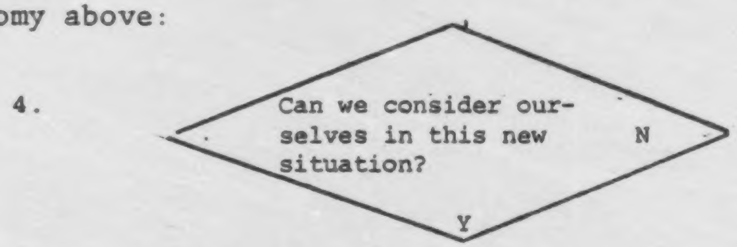
As with the model in Table IV, this model represents the decisions people make in a group, except that now, certain preconditions of social status must be assessed. After obvious questions identifying the problem upon which they must decide (i.e. is there a mine proposed on our land?), they must then identify where they themeselves stand, as a collective, to the elements of sociological contrast mentioned in the taxonomy above.

The following three condition diamonds denote the preconditions identifying the problem to be considered (see Appendix 4-6).


1.
Will there be a mine?
N
Exit
Y
2.
Will we have to give up land or relocate?
N
?
Y
3.
Will we have to turn in our grazing permits?
N
?
Y

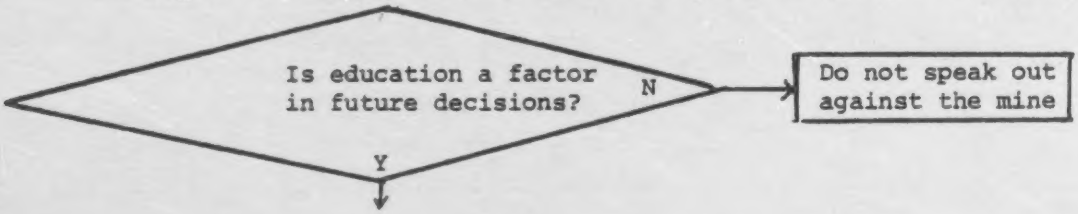
A "yes" answer to each question leads to the next. No options have been identified for a "no" answer, except for the "exit" option in 1.

The next question corresponds to the first contrast of the taxonomy above:

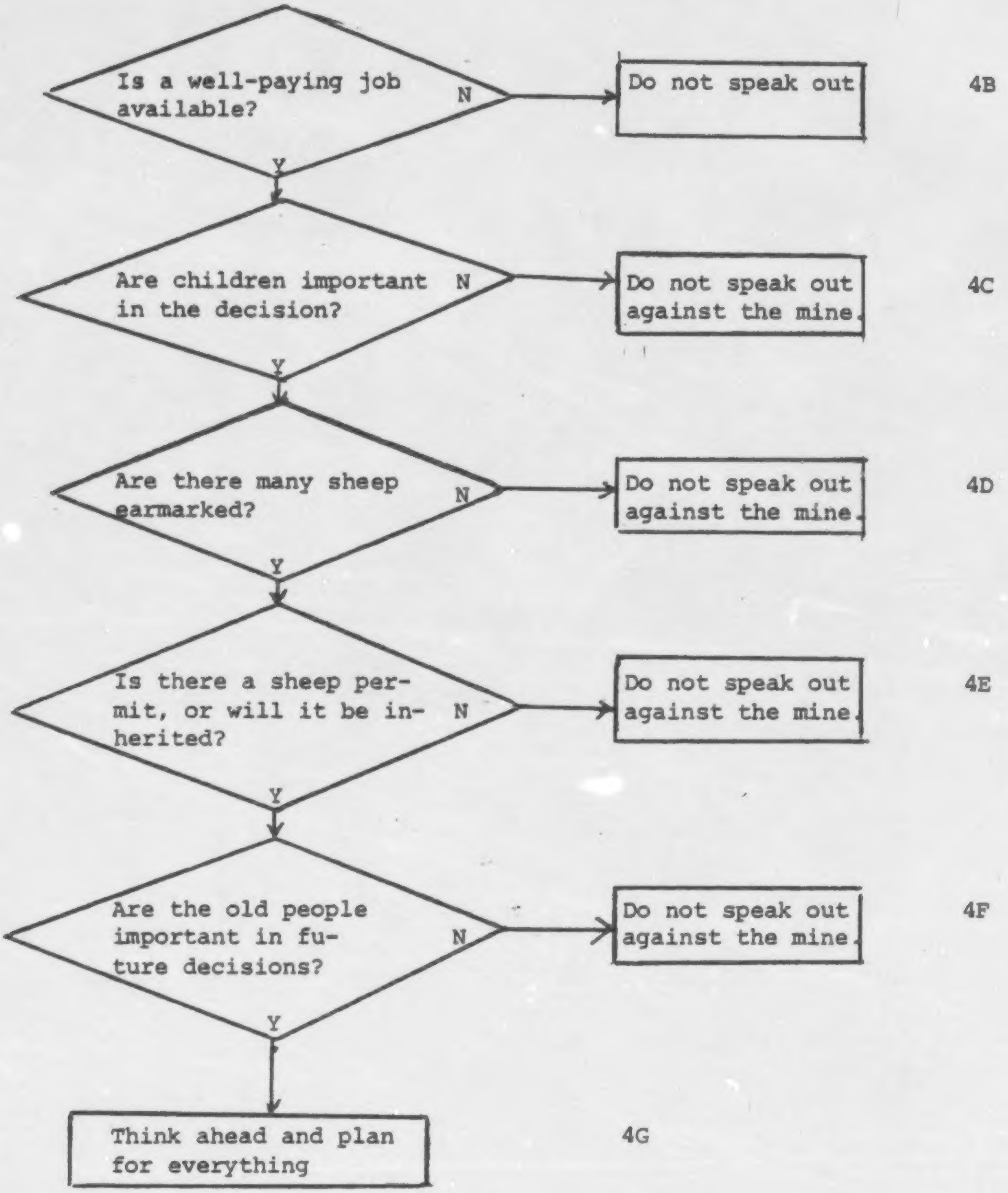

4.
Can we consider ourselves in this new situation?
N
Y

(Appendix 4-6)

This question translates from a Navajo quotation which approximates most closely the question of whether nor not the Navajos affected can lead any other way of life. A "no" answer leads to the following sequence of questions, each of which corresponds to important life-crisis decision points (see 4.2.3.ff.).


Is education a factor in future decisions?
N
Do not speak out against the mine
Y

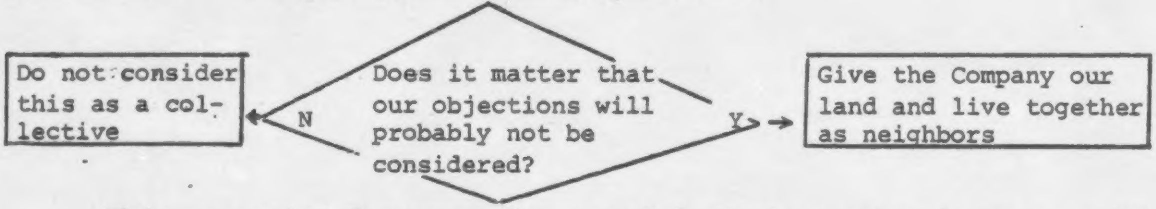
4A


Is a well-paying job available?
N
Do not speak out
4B
Y
Are children important in the decision?
N
Do not speak out against the mine.
4C
Y
Are there many sheep earmarked?
N
Do not speak out against the mine.
4D
Y
Is there a sheep permit, or will it be inherited?
N
Do not speak out against the mine.
4E
Y
Are the old people important in future decisions?
N
Do not speak out against the mine.
4F
Y
Think ahead and plan for everything
4G

(See Table IV)

In options 4A - 4F, "do not speak out against the mine" (ha'sedígíí doo bik'iji'idlíída) is equivalent to approval of the mine. In the Navajo idiom (see Appendix 4-14), not speaking out against the mine implies tacit approval without any demand for tradeoffs for traditional ways of life. Option 4G, the outcome of a "yes" answer to Question 4F , denotes demands for tradeoff for traditional ways of life and the anticipated social costs discussed in Section 3. The idiom used here is "think ahead for everything," and it denotes the thought required for demanding tradeoffs.

A "no" answer to "can we consider ourselves in this new situation?" brings forth another question:


Do not consider this as a collective
N
Does it matter that our objections will probably not be considered?
Y
Give the Company our land and live together as neighbors

This question becomes the crucial choice point between resistance and capitulation, the other two major options, and the other point of contrast for the above taxonomy.

Table V on the next page is the composite decision model standing for the taxonomy on P. 74.

### 5.2. Validity and Psychological Reality of the Model

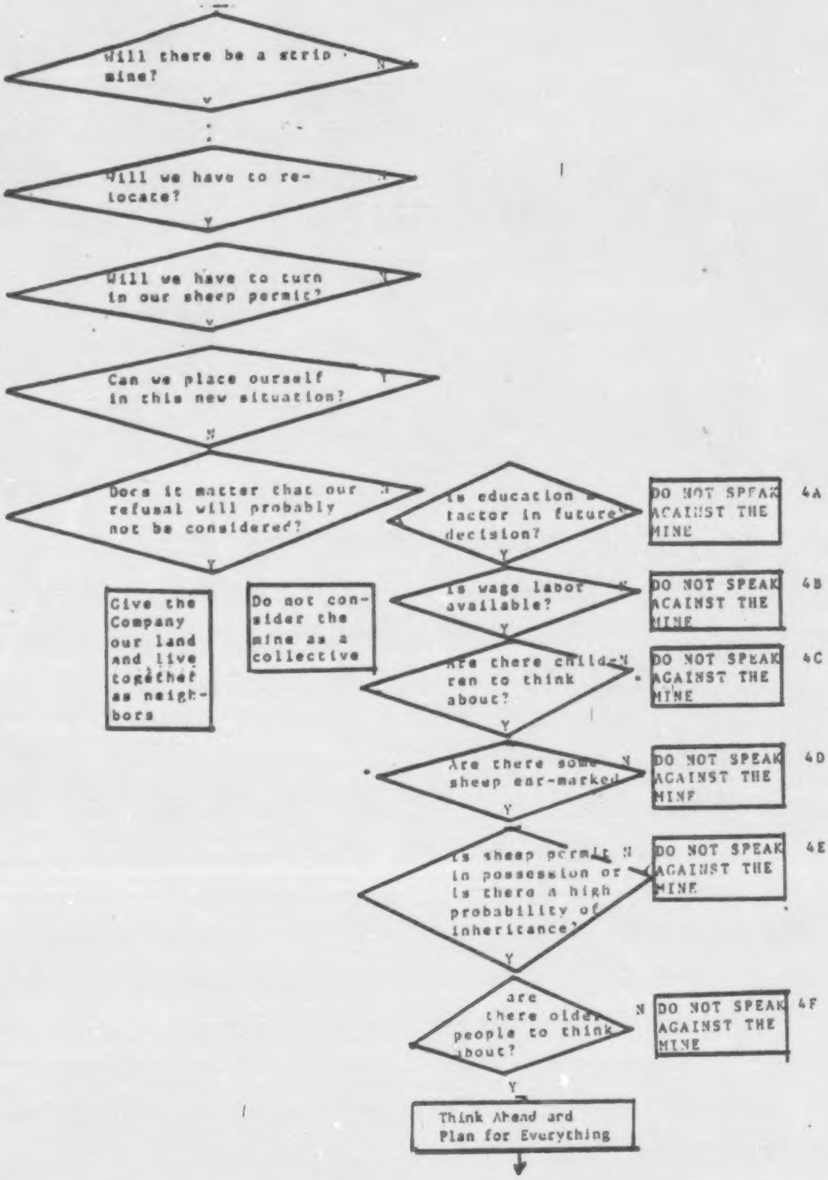
The application of this composite model would make much simpler the strictly sociological problem of determining, in a given community, what sorts of individuals will require what sorts of tradeoffs and other negotiation. Unlike more conventional classifications of individuals by age, income, or occupation, the model has the potential of fitting more closely to the peoples' respective social status, attitudes and perceptions, for each group deciding on the various options. This potential advantage is due to the model's being derived from the language and categories actually used and defined by the people interviewed.

The question of validity immediately arises, however. That is, will people say what we expect them to say, or do they intend to do what we expect them to intend, according to the model? To a degree, this question has already been addressed through obtaining informant approval, although such validity is rather weak (Lazarfeld, 1967).

## TABLE V

## Composite Decision Model for Responses to Proposed Mining

(Appendix 4-7)


Will there be a strip mine?
N
Y
Will we have to relocate?
N
Y
Will we have to turn in our sheep permit?
Y
Y
Can we place ourself in this new situation?
Y
N
Does it matter that our refusal will probably not be considered?
N
Y
Give the Company our land and live together as neighbors
Do not consider the mine as a collective
Is education a factor in future decision?
Y
DO NOT SPEAK AGAINST THE MINE
4A
Is wage labor available?
N
Y
DO NOT SPEAK AGAINST THE MINE
4B
Are there children to think about?
N
Y
DO NOT SPEAK AGAINST THE MINE
4C
Are there some sheep ear-marked
N
Y
DO NOT SPEAK AGAINST THE MINE
4D
Is sheep permit in possession or is there a high probability of inheritance?
N
Y
DO NOT SPEAK AGAINST THE MINE
4E
are there older people to think about?
N
Y
DO NOT SPEAK AGAINST THE MINE
4F
Think Ahead and Plan for Everything

BEST COPY AVAILABLE

### 5.2.1. Operational Assumptions

To answer this question in more detail, we will restrict testing of the model to a comparison of options 4A - 4G. Even with this restriction, the small sample size requires "lumping" of various options and of testing a limited number of hypotheses deriving from them. The lumping, however, is justified on three grounds. First, options 4A - 4F denote "dropping out," because the model reflects the view of a traditional Navajo (or a bicultural Navajo representing traditional views). The option of accepting a job from the mine drastically decreases an individual's hope for any sort of life on the land. Option 4G, on the other hand, is not a dropout option even though it may involve ultimate approval of mining because tradeoffs including land are part of the negotiation.

The second reason is that the progression through questions 4A - 4F is not a smooth one; we suspect that there is a juncture in time between Question 4C (Must one consider how many sheep are earmarked?).

Thus, a long time can elapse between the two and this fact further justifies lumping of options 4A - 4C and 4D through 4F. What this lumping thus means is that people opting for 4A - 4C are relatively young, have relatively little of a past to think back on, and a relatively large future with many indeterminacies. Those in Option 4D - 4F are considerably older, have to come to grips with the need to assess the likelihood of (or willingness for ) inheritance of land, and have a longer past upon which to base their decisions.

The third consideration is that people who must face each of these decision points will consider 4G a tempting option, even if likelihood of attaining the stage is low.

### 5.2.2. Hypotheses: Dropping Out vs. "Thinking Ahead"

The following table is a comparison of the total number of individuals we would expect to follow option 4A - 4F to the number who actually said they would.

TABLE VI

| | Do not speak out against the mine | Think ahead for everything | Total |
|---|---|---|---|
| N: Option 4A + 4B + 4c | 33 (94%) | 2 (6%) | 35 (100%) |
| $x^2$ | 24.84 | 10.16 | |
| N: Option 4D + 4D + 4F | 11 (40%) | 16 (60%) | 27 (100%) |
| $x^2$ | 19.16 | 7.84 | |
| TOTAL | 44 | 18 | 62 |

Simple numerical count supports the third consideration. Option 4G is in fact the option preferred whenever the dropout options 4A - 4F were not chosen. The second is supported by a chi-square grid. That is, the chi-square between proportions of those preferring 4A - 4C to 4G (i.e. (4A + 4B + 4C)/4G) to the proportion of those prefering 4D - 4F to 4G (i.e. (4D + 4E + 4F)/4G) yields 21.20 at one degree of freedom, significant at .001. The chi-square thus breaks at the juncture between 4C and 4D, and the correlation strengthens the second assumption.

The first is justified by previous definition and for the present must be assumed.

The model is thus fairly predictive; people will either do what we expect or they will jump ahead to 4G, to negotiate for their people. Also the tendancy to jump increases drastically after the individual considers inheritance questions. This tendancy is supported throughout this report.

### 5.2.3. Sampling

The total of the sample for this part of the test is 62. The remaining 26 opted for 4G, 5A or 5B. This total, of 88, does not include the 36 interviewees who reside in Upper Fruitland. These were not counted here because they had already made (or had been forced to make) their decision and thus cannot be compared for preference in the same fashion.

Clearly, a large stratified random sample and a survey questionnaire would provide further refined testing of the model, at the same time that further non-structured interview would provide more detailed description of "dropout" options 4A - 4F. These dropout decisions do vary in detail and include sub-plans such as buying land off Reservation, small business investment, and others.

### 5.3. Factors of Indeterminacy Outside the Model

While the small sampling may be an obstacle to establishing the model's predictability, it can be remedied through further research. However, other factors having nothing to do with the operation of the model, contribute to indeterminacy. One of these is the "bandwagon effect" (Granovetter, 1977) and another is factionalism induced by outsiders. The effect of these in the Burnhams Community will be described.

#### 5.3.1. The "Bandwagon Effect"

The decisions especially to resist (5B) and to demand tradeoffs are complicated by the tendancy for people to do what their neighbors are doing (Granovetter, 1977), or the "bandwagon" effect. That this is possible is supported by many accounts of El Paso-Consol and Tribal officials convincing individual holders to settle with the Company or Tribe by telling them that everybody else has decided to move and that the individual in question is the last one.

The Bandwagon effect has aggravated the confusion and frustration already held by some of the people. For example, one Burnhams woman reported that she had assumed that the longer one waits to settle with the Company, the less favorable the tradeoffs. A lawsuit by the National Indian Youth Council from Albuquerque had caused some to hope for the total defeat of the Company proposals, and thus a shift from tradeoff negotiation to resistance. At the same time others switched from resistance to tradeoff negotiation out of personal trust for some of the leaders.

### 5.3.2. Further Indeterminacy: Factionalism

Clearly, the decision model works best under conditions of relative social tranquility. As soon as political factions develop between the groups deciding for or against various options, group decisions are no longer made on the basis of fundamental knowledge about the way of life they lead or would like to lead. Instead, influences such as the bandwagon effect (5.3.1.) and decisions based on short-term political factors become manifest. If outside interests know about the potential of such factionalism they may exploit it to their advantage.

While information is lacking from Fruitland, Sanostee, Red Rock and Shiprock, factionalism development at Burnhams can be attributed in great part to outside influences. For example, some of the Burnhams residents have accused the Tribe and El Paso-Consol of utilizing a "divide and conquer" strategy.

The strategy is most manifest through acknowledging majority vote. That is,

A. The Tribe and Company presented their proposals to an assembled chapter meeting, not all of whose members were present.

B. Those who were present voted quickly and without discussion, apparently at the urging of representatives of the Tribe and El Paso-Consol.

C. Those who were absent attended the following meeting and disputed the vote.

D. Those who originally voted reacted quickly and larger-scale dispute and factionalism followed.

Amidst accusations of corruption and conspiracy, the Councilman and Chapter President offered to resign. Others, however, urged the disputants to reconsider and resume dialogue.

By the time of the researchers' arrival in Burnhams, in late November 1977, four generalized factions had arisen:

A. those who were adamantly against the introduction of the strip mine;

B. those who were in favor of the mine;

C. those who took no public stand one way or the other;

D. those who publicly demanded unity and an abeyance of any decision until more information became available.

The first group, when identifying themselves as being against relocation, cite many of the costs mentioned in Section 2.

DEFINITION: This Group Which has Decided Against It /i.e. relocation/ (See Appendix 5-1)

1. We are of one family /or body/
2. We are relatives from the same place
3. Their grandmother and grandfather are buried there
4. They say "we have heard from the people who were relocated."
5. They say "we fear for our health."

The second group, in stating their support of strip mining, cited the deterioration of land and their way of life, and maintained greater optimism for the jobs, and other tradeoffs, offered by the Company.

However, others within the community maintained that the second group were possible either alienated from the others (for some reason) or had simply not thought through the consequences of relocation. The following definition illustrates what others had to say about those in favor.

DEFINITION: They Want to be Relocated (See Appendix 5-2)

1. Some /i.e. those of another group/ would say that they say "I would like to live with another neighbor"
2. They say "It is tiresome living with one neighbor year after year."

The opposition of these statements to sentiments stated in Section 2 clearly suggests the disapprobation the others have towards those in favor. However, the second possibility attributed by others to those in favor of relocation suggests that they simply have not thought the matter through. It is cited, for example, that some originally in favor of relocation changed their minds as a result of considering what could happen to their relatives.

The third group is considered by others to be simply "in the middle" (bita) and tending to vascillate without apparent consistency. The following definition suggests that others are not sure why these people hold their position.

DEFINITION: Those in the Middle /Who Waver Back and Forth/ (See Appendix 5-3)

1. They are the people who are not sure about removal of the chapter house.
2. They used to be against this thing but are not now.

Various explanations have been offered by Burnhams residents for the position these individuals have taken. No quotations are available, but essentially, they are the following:

A. Individuals aspiring for various political offices fear repercussions in local elections if they arouse the ire of one faction or another.

B. Some are the few who have been directly compensated for their land, will benefit monetarily, and also wish not to arouse the ire of other factions by advertising their decision.

The fourth group best illustrates how the various factions have separated because of outside influences as well as fundamental attitude differences.

DEFINITION: They Say "Easy, Let's Find Out More About the Other." (See Appendix 5-4)

1. They are the group which says "Wait a minute; take it easy."
2. They wish things would change for the better.
3. They say "my sheep permit shall not be taken away from me under any circumstances."
4. I stand firmly by saying that I will not give up my sheep permit" /these people say/.
5. In the near future we will have to accept this very situation /i.e. of having to move away from this area/ /they say/.
6. The White Man still don't understand our view /they say/

They have emphasized their objections to relocation more than their approval.

However, while they stress objections, they also recognize that

A. they must move;

B. proper conditions must be met for the relocation

C. they have not had proper input at the present time.

It is this fourth group which has also been most ready to explain their interpretations of the feelings of others. It was they who maintained much of the sharpness in attitude differences as due to lack of knowledge about others.

DEFINITION: *We Don't Come to Understand One Another (See Appendix 5-5)*

1. We throw words at each other.
2. It is true that for lack of knowledge of others that we are unkind.

They maintained that being able to understand one another better would facilitate ending the present factionalism. A comment of one of our interim research result presentations at a Burnhams chapter meeting illustrates, indirectly, one of the underlying causes of factionalism. The presentation concerned a preliminary taxonomy of people in Burnhams, according to the side they took in approving or disapproving the moving of the chapter house in preparation for strip mining.

> Me too, I like this--that is, the way this research has been presented. You see, when things are researched in depth, then it is clear that the kinds of people you describe do indeed emerge. There are indeed those who want change; those who say "no" and the group that says "wait a minute; easy!", whose members are here at this meeting tonight. Also, you can see the group which is simply in the middle. When it is researched in this manner we better understand the wishes of these groups and can understand each other more clearly, [exactly] as it is said. Thus, also we understand better the plans of the mine and of the other groups. In this way I believe and hope that things will change for the better. Right now we do not understand one another and that is the reason for the present [factionalism and confusing conditions].

(Appendix 5-6).

In effect, the acknowledged need to understand the viewpoint of the other, and thus restore harmony, underlies a *desire for restoring the conditions basic to a consensus-based decision-making process*. This consensus base is necessary so that proper equity can be provided to the different groups and their various concerns.

Thus, even some of the Navajos within the community have voiced the suspicion that much of the sharpness of difference in position taken belies not so much fundamentally-different attitudes but differences in the *degree to which people have progressed in their thinking*, on matters of relocation in particular, and development in general. Stated another way, the ways of thinking and group decision-making denoted by k'é [family] and náás ahiijih [we progress together] are perceived as disrupted by the Tribe and El Paso-Condol. By communicating closely only with individuals and factions favorable to development, and by evidently encouraging a majority vote, these outsiders contributed handsomely to the breakdown of the communication system vital for consensus-based decision-making.

## 6. DISCUSSION: MODERNISM AND THINKING AHEAD FOR THE FUTURE

Contrary to earlier studies and to views dominating much of economic development policy, Navajos are attempting not to become assimilated into the dominant society. They are attempting to incorporate the influences of so-called modernization into their cultural knowledge and social structure.

It has already been suggested in 5.2. that many of the younger people are aspiring to a life of leadership which will include their acting in favor of their parents. In addition, their parents, while hoping that their sons and daughters will obtain an education which will enable them to obtain well-paying jobs, also hope that these sons and daughters will learn the traditional ways as well. Finally, these ways can best be learned by staying close to home and learning in practicum from a life on the land.

The Navajo term denoting this synthesis is the same as that denoting the earlier ways of life: yá'át'éehgo iina (the good life). Included in this term is the ability to think ahead (naas tsíhǫǫkos). Discussion in this section will revolve around how an individual is supposed to acquire this ability, and how it influences modern inheritance and plans for the future.

The choice between "modernization" and "tradition" is not an either-or decision. Both require an individual to think ahead (naas tsíhǫǫkos) in similar terms.

### 6.1. The Good Life

The most important attribute of the good life is the primacy of good thought in life and its inseparability from the Western concept of material well-being. That is, the individual, through careful forethought and action, will attain wisdom. Attainment of wisdom leads, by implication, to attainment of material possessions, especially livestock, and thus makes one eligible for greater leadership and responsibility.

The good life includes the following:

A. Yá'át'ééhgo nitsídzíkees (good thought)

B. Yá'át'ééhgo na'adá (good behavior)

C. Iiná dahyilyééł (life with valuable possessions)

D. Naat'áanii ídlį́ (being a leader)

Throughout an individual's maturation, then, the proper development of thought, and the capability of thought, will result in leadership precisely because that person will be recognized as able to

A. think about all the people with whom he or she must deal;

B. think far into the future and decide for these people.

The development of the ability of good thought and judgement includes the building of strong individual fortitude. Children are urged, for example, to build strong bodies through running, and stability, patience and steadfastness through rolling in the snow. Ability to undergo these trials builds discipline and negates hypersensitivity and other instability in an individual.

"Good thought" itself develops throughout an individual's life in discrete steps. Each step involves greater mastery of a larger series of tasks throughout an ever -increasing sphere of social interaction and greater depth of time. One set of steps is enumerated in the following manner.

A. Háni' hazlíí' (one's awareness).

B. Adaa'ako hniidzįį´ (one's self awareness)

C. Nitsídzíkees dzizlįį' (one's beginning of thought)

D. Hanitsékees nilíinii hazlįį' (one's thoughts emerged)

E. Adá nitsídzíkees dzizlįį́' (thinking for one's self through building fires, chopping wood [for boys] and cooking [for girls] and practicing these.

F. T'áá ałtsoní baa nitsídzíkees dzizlįį́' (thinking about all things)

G. Adá náás nitsídzíkees dzizlįį́ (thinking ahead for oneself)

H. T'áá ałtsoní bá náás nitsídzíkees dzizlį́į́' (thinking ahead for everything) or planning ahead for every aspect of life, including the future of the people.

As the youngster progresses through steps "A" through "H" people watch him or her carefully and evaluate the performance. The individuals' mastery of tasks serves as an indicator of their thought and judgement. Thus, the child, at an early age, is already working hard on mastering adult roles, especially in the traditional setting.

A person who has thus built up a sizable herd of sheep, at the same time that he or she has not been stingy, deceitful or greedy, tends to be seen as having developed properly. With a herd already being earmarked, an individual will have mastered the thought and knowledge necessary to be on his or her own to marry. Once they are on their own, they may attain leadership standing and will begin to consider the following:

A. naaldlooshii hwee hóló̜ (to have livestock), and then

B. hakéyah hóló̜ ( to have land), and then

C. haghan hóló̜ (to have a house), and then

D. hanaalyéhé hóló̜ (to have precious possessions, including jewelry, saddle, etc:).

These individuals will gradually assume a position of leadership and respect within the nuclear family household, and finally, for an extended family. Leadership will then extend beyond, into the Clan and larger units. The Navajo terms break this final progression into two main stages.

A. ha'áłchíní bá dzízí (standing for one's children)

B. hadine'é bá dzízí (standing for one's people)

## 6.2. Options in the Real World: The Cattleman's Lifestyle and the Inheritance of Land

While this scheme of thought development has been explicated most carefully by older Navajos, many younger people aspire to this goal (see 5.2.3.) as well. However, attainment of this goal is not easy because it must be redefined carefully in view of the sometimes disfunctional influence of wage labor and schooling.[9]

Many of these sons and daughters are now aged 30-50, have had schooling, have obtained reasonably secure wage work, and may live in the nearby bordertowns of Farmington or in the administrative centers of Shiprock, or even Window Rock. They have attempted to reconcile the possible clash between modern wage-oriented life and traditional stock-raising life by keeping cattle. They justify this reconciliation on the assumptions that:

A. cattle require less day-to-day care;

B. cattle do not denude the range as badly;

C. cattle are easier to transport, and

D. cattle can go without water for a longer period of time.

In this transition sheep are still kept for ritual purposes, for "giving the older people something to do," and for informal, non-market exchange of meat..

Some also justify the shift by observing that the land is increasingly unsuitable for sheep and for supporting any family units. For example, one individual observed that during the springtime it becomes increasingly necessary to bottle-feed lambs because the ewes are not well-enough fed to suckle them themselves. More lambs are born dead or abandoned by their mothers. Cattle, he observed, do not require as much trouble, and are more acceptable for the market.

In addition to facilitating a daily (or even weekly) commute to a job, cattle were described as a source of liquid assets. Thus, another individual described how the sale of a large bull from his herd could pay for one semester for some of childrens' college tuition or comprise a hefty downpayment on a family pick-up truck.

However, sheep were described by others as still important. Sheep, they maintained, make better use of the available (and often barely suitable) range fodder because they can eat plants other than the sparse grass preferred by the cattle. Thus, sheep are justified as being a form of longterm security in the event of job layoff, or other economic reverse. Cattle, on the other hand, are the means for participation in the wider market economy at some advantage for the Navajos (Bumgarten, 1979).

The apparent switch from sheep to cattle indicates a change in emphasis rather than an abrupt transition. Navajos have kept sheep, cattle, and horses for a long time and much of the value attributed to sheep in previous sections also applies to livestock in general (Werner and Begishe, 1968). Thus, other people, when interviewed, referred to diné bilį́į́' (Navajo livestock) instead of, or along with, Navajo sheep (diné bidibé), and maintained the same educational, moral, and survival importance for all these.

Nevertheless, the change in emphasis from sheep to cattle by at least some Navajos signals important changes:

A. in orientation toward the outside market; and

B. in both the expectation by traditionals for how their descendents should lead their lives and the way their descendents actually plan to live.

Both changes influence the ways in which land will be inherited.

### 6.2.1. Traditional Inheritance of Land and Livestock: Past and Present

Informants maintained that during the years prior to the traumatic stock reduction of the 1930's and 1940's, the eldest daughter tended to be preferred for the inheritance of most of the sheep and the land upon which they were grazed (Morgan, 1978). As mentioned before, the inheritance of land is based on the number of sheep which are earmarked for the children and which they later raise.

Residence tended to be matrilocal; i.e. the son would move out of his domicile with his sheep herd and live with his wife's family. The son would then continue working for his wife's family until either his wife inherited a sizable portion of land or until he or his nuclear family moved off to begin another camp (Morgan, 1978; Witherspoon, 1970). In either case, the husband would eventually rise in prestige and status if he worked and thought properly.

This inheritance and residence approach was apparently preferred but not required or enforced by any legal or jural obligations.[10]

Thus, nobody here was disgraced, nor were marriages annuled, because inheritance or residence patterns deviate from the "norm." Now,however, even this preference is fading.

### 6.2.2. Present-Day Variability: Fragmented Vs. Whole Permit Inheritance

One shift in emphasis, then, is the probable relaxation of inheritance preference in which the oldest daughter is to inherit the bulk of land, livestock, and possessions. Now, the older traditionals seem to base their inheritance decisions more on merit. Some speakers indicate that now, instead of commanding the inheritance to the eldest daughter on the basis of tradition, they decide in family discussion who, if anyone, best merits the bulk of the sheep permit, and thus land and livestock.

However, even within this shift in emphasis, there is variability. Evidently, two different attitudes have evolved as to how the descendants should inherit the land. Some have maintained that the sheep permit should be divided equally among all the descendants while others feel only one should still have it.

Upon closer review of the interviews, however, Morgan concludes that what is denoted is less a sharp difference than the opposite ends of a continuum. We have been unable to determine the relative proportions of people along various stages of this continuum, but it appears that placement depends on the same factors as those determining decision to drop out vs. staying on the land in the event of economic development.

The ends for both are the same: to have the grown children around to help support the old parents. However, those in favor of equal division have attempted to adapt--through their children--to what they see as irreversible changes. They seem to hope that while they may no longer be able to influence the thinking of their children, life on the land will bring their children to their senses, so to speak. It is hoped that the children will realize somewhat that total assimilation in the dominant society will never be possible (due to circumstances beyond their control) and that they will then be able to fall back upon whatever aspects of traditional knowledge and resources they will need.

Those in favor of inheritance by the eldest maintain that whatever the shortcomings of land, the livestock are sill important. Evidently, the children are assumed to have strayed less from favored traditional ways and will thus require more of their family and economic organization to be in tact.

## 7. CONCLUSION

The idea long proposed by some social scientists, that younger Navajos are "caught between two cultures," is not justified here. Both old and young plan to progress together, and any economic development which is proposed to favor one at the expense of the other (e.g. "in youth is the hope of the future") will be resisted increasingly, *at least at the local level*. All development must insure economic and social equity for all ages and groups.

This conclusion is easy enough to draw from the study, and the decision model, with all its components, provides an outline of how such equity may be determined *in depth* and relatively quickly. Howver, the actual determination of equity is a long way off for Burnhams, or anywhere else on the Navajo Nation.

The following proposed resolution, then, is, above all else, a recommendation for the *approach* and *methods* to be used in social impact assessment and planning. It does *not* recommend the exclusion of any methods we know of; it is simply a bottom-line recommendation of what should be included, i.e. the accurate assessment from the view of people most directly involved. The study is simply the affirmation that the approaches are *necessary* and *possible*.

### PROPOSED RESOLUTION TO THE NAVAJO ENVIRONMENTAL PROTECTION COMMISSION OF THE NAVAJO TRIBAL COUNCIL: THE INSTITUTION AND IMPLEMENTATION OF SOCIAL IMPACT ASSESSMENT AND PLANNING FOR NAVAJO COMMUNITIES IMMEDIATELY AFFECTED BY ENERGY DEVELOPMENT AND ECONOMIC CHANGE

WHEREAS:

7.1. The Navajo Nation incorporates land under whose surface lies vast deposits of energy resources highly valued in the economy of the United States;

7.2. The Navajo Tribal economic development policy includes energy development as integral to subsequent primary development of an agricultural base, as well as general self-determination.

7.3. The Tribe considers energy development of high priority, *also* because of strong pressures from corporate interests as well as apparent lack of support from the U.S. Department of the Interior

7.4. The possible benefits of energy development to the Navajo Nation overall may be offset by the social, cultural and economic costs sustained by those Navajos directly affected, *particularly* in the event of *forced relocation*.

7.5. Many Navajos now perceive that they can best benefit from energy development (insofar as this is found to be possible) *only if* they can maintain rights to their land, with its agricultural and pastoral subsistence support to individual and family;

7.6. These Navajos have demonstrated both capability and willingness to participate in the economic and community assessment and planning *if* such planning is carried out in *good faith*, in *proper order*, and with the participants being *fully informed* of development outcomes.

7.7. Failure to initiate such planning will result in the weakening of the political and social bases upon which the Tribe must draw its support, because the Navajos suffering most from energy development will increase resistance and distrust of *all* social change initiated by the Navajo Tribal Government;

7.8. Weakening of this political and social base will make the Tribe more vulnerable to a wide range of political pressures from outside the Reservation;

7.9. Community-level suspicion and resistance to Tribal initiatives in land management, and economic development, which have frustrated many concerned Tribal officials, *can* be offset by the recognition, by many at the local level of community organization, of the Navajo Tribe as the representative of the Navajo people in these energy development decisions;

7.10. Planning and assessment, which will be of benefit both to those Navajos directly affected by economic change and to Tribal planners, can be carried out very effectively by researchers and planners in a spirit of trust and equality with those being assessed, which does not purport to dictate to people, but which assesses their knowledge on their own terms;

7.11. It has been demonstrated that such trust and equality can be implemented within the methodology of research and assessment through local educational and professsional institutions with whom a minimal political affiliation is associated, but who also carry with them a good historical knowledge of the impacted area;

7.12. The above assertions have been demonstrated not only in research but in the oratory and many decisions of the Navajo people themselves.

NOW THEREFORE BE IT RESOLVED THAT:

7.13. The Navajo Tribe institute and require a social impact assessment and planning procedure for each community or land-use entity to be affected by instituted social change, with all due measures taken by the Tribe and other concerned groups to insure that people are kept fully-informed; and

7.14 Such planning and assessment should incorporate, but not be limited to, methods which describe and mediate the perceptions, views and terms of the Navajo people themselves who are to be affected; and

7.15. The methods should proceed in a systematic, step-by step, fashion at such a rate that consensus-based decisions may be fully thought through, by all groups involved, as to what they value and require for mitigation from the development; and

7.16. The terms derived from such method and assessment should be included in an actual negotiation for trade-offs, once a "go" option for development has been decided upon; and

7.17. The terms of negotiation should include, but not be limited to the following:

A. the minimization of forced relocation, especially for long distances;

B. the setting aside of land for those relocatees so desiring;

C. relocation in extended family groups, wherever absolutely necessary;

D. relocation only short distances, sufficient to ensure safety and well-being of relocatees viz. the development operation;

E. reclamation of land;

F. individual and family freedom of choice as to retention, lease, or sale of grazing permits;

G. protection of all sacred places, in addition to recognition of archaeological sites;

H. special arrangements for the maintenance of livestock, where requested;

7.18. All other terms of negotiation, in addition to the above, shall also be negotiated in good faith; and

7.19. The monetary costs of all negotiated tradeoffs, in the form of programs and capital improvements, shall be established and budgeted, and a contract entered into with all individuals of the community to be affected.

## FOOTNOTES

1. As Finsterbusch (1977) points out:

> The traditional research standards of analytic perceptiveness and precision data completeness and reliability, and depth of causal understanding apply only insofar as they serve the purposes of policy selection, design and administration.

(P. 2).

2. Kimball and Provinse (1942) maintain that during the Stock Reduction of the 1930's the BIA manipulated the Chapters' constituency, which is less endowed in land, against the older, more traditional Navajo extended family land-use units. They strongly suggest that by encouraging these chapter associations the BIA could undermine the land-use groups simply by refusing to recognize them as the legitimate representatives of the local Navajo people, and by recognizing the Chapters' constituency instead. Aberle, (1978), however, produces historical evidence that at least some chapters were recognized locally by Navajos as legitimate representative bodies. While evidence is lacking in our own study, it is more likely that land use units have been able to co-opt much of the chapter organization, at least in some places. The result is that there is co-existence between older land-use decision structure and the newer one purportedly represented by the chapters. Such co-existence can persist until further perturbations cause factions to form along the old lines of land use groups vs. those without land. This may be what has happened in Burnhams (see 5.3.2.).

3. By egalitatianism we do not mean economic leveling, i.e. encouraging the systematic draining of an individual's resources until all have the same amount. Some individuals, through better judgement and industry do amass more than others and achieve higher status as a result. Nevertheless, all individuals begin life with the same chances to amass wealth and are not handicapped by social class, caste, or other social status ascribed to them through birth. Pelto (1973) provides a similar definition for the Skolt Lapps, who also engage in a pastoral existence.

> By "egalitarian society" I mean that kind of social system in which access to the scarce resources of the region is, in principle, open on an equal basis to all those persons who have the physical and mental capabilities for exploiting them. An important aspect of an egalitarian society thus defined as "starting capital" is relatively unimportant as a factor influencing adaptive success and failures.

(P. 26). He continues to explain that "starting capital" is given to an individual, when he or she is young, in the form of reindeer, which must be taken care of. The Navajos have a similar practice in that children are given sheep when young, and these sheep comprise the herd which will hopefully increase and insure that individual's chance to make a living in later life.

4. We prefer to use the term extemporaneous promises rather than outright false representation because of the possibility of cultural misunderstanding on the part of Navajo representatives of NAPI and NIIP as to their power and status in the bureaucratic decision-making process. That is, it appears that some Navajo interpreters and representatives may have assumed that not only were they to inform the future relocatees of what was to happen, they were to assess the tradeoffs necessary for equity and make recommendations to the bureaucracy for compensation. Isolated reports have surfaced of acute embarrassment and loss of credibility when these representatives found that the higher echelons of the bureaucracies turned a deaf ear toward these recommendations, thus forcing the representatives of NIIP to break their promises to the local people. This explanation does not, of course, deny the likelihood of false representation. Most likely it occurred very frequently. Our point is simply that *even had there been no lies, promises still would have been broken because of misunderstood expectations*.

5. Sasaki (1960) provides case examples of how entry into wage work of farm relocatees in the 1950's caused similar family breakup. Men, and younger people in general, acquired a new independence from the older system of inheritance through the mother's line, at the same time that security associated with land decreased. Thus, the breakup of family and the departure of males is nothing new in Fruitland, although it is aggravated, no doubt, by the most recent relocation.

6. Disappointment with jobs promised to those following some government program is nothing new. See Sasaki (1960) for case examples.

7. Other researchers have reported the disuse of the term naat'áanii, particularly as denoting specific individuals. Actually use of the term persists, but has tended to become adjectival. That is, certain individuals and types of behavior are described as having the qualities of such leadership, such as denoted by naat'áanii iidlí, (life of leadership). It also appears that the terms such as diné hach'i'dadeez' (respected) and diné biłiidli (sought after) are attributive of such leadership qualities, and are used far more frequently. The concept of such leadership, as desirable and possible, is by no means dead among the Navajos, and this is true *despite* the systematic erosion of

such leadership by the U.S. Government since the Treaty of 1868. It thus follows that much of the leadership is "underground" in the sense that no one would want to be known as a "naat'áanii." This is because to be recognized as such invites pressures from a host of governmental and corporate groups for them to influence decisions among those for whom they speak. Acquiescence to such demands invites "branding" by the local people, and thus loss of credibility; and refusal invites retaliation from powerful outsiders.

8. To illustrate the advantage, let us compare briefly correlations of age and status to willingness to accept wage-work and jobs vs. resistance. It is plausible to assume that younger individuals (e.g. aged 20-40) would favor jobs over sheepherding. However, if what we have to say is true, this age grade of 20-40 may indeed correlate with willingness to accept wage work and sell permit more strongly than, say, those aged more than 40 years. This is because the 20-40 age group may not yet be in a position to inherit grazing permits. While we have not carefully correlated age with life crises in 4.2.ff., we suspect that there is considerable latitude in age as to when a permit is inherited.

9. Our discussion of this redefinition will be concentrated on a sample of 28 people interviewed by Morgan (1978) as part of a separate project.

10. This is important to consider because the terms "matrilineal" (for inheritance) and "matrilocal" (for residence) are often used to refer to Africa and Oceanic societies in which anthropologists have assumed that jural obligations exist to enforce the preferred marriage patterns. This does not appear to be the case here (Lamphere, 1977). Nevertheless, definite preferences toward inheritance by daughter from mother have been stated (Witherspoon, 1975).

110

APPENDIX 2-1

DUPLICATE GRAZING PERMIT ISSUED FEBRUARY 12, 1975

NAVAJO TRIBE
GRAZING FORM NO. 1-5-48-3M

(CENSUS NO.) (NAME)

Assigned Brand
District No.
Date Issued January 26, 1963
Permit No.

United States
Department of the Interior
Office of Indian Affairs

GRAZING PERMIT

Navajo Reservation
Window Rock, Arizona

| | | Sheep Units |
|---|---|---|
| Horses Permitted 2, | Totaling | 10 |
| Sheep and Other Livestock Permitted | | 22 |
| Total Permitted | | 32 |

Season of Use
This District YEARLONG
Elsewhere and Dates

## PERMIT CONDITIONS

BY AUTHORITY of law and pursuant to the regulations in Part 72-Navajo Grazing Regulations, Title 25 C. F. R.-and amendments thereto, the above-named Indian is hereby granted permission to hold and graze the number and kind of livestock as specified above on the Navajo Reservation for the time and in the district or districts as stated above and thereafter until further notice, subject to compliance with the Range Management Plan for the district or districts and any changes made in accordance with and pursuant to the said Grazing Regulations as amended.

This permit shall not be assigned, sublet, or transferred except as provided in said Grazing Regulations.

The Superintendent shall make decisions relative to the interpretation of the terms of this permit and enforcement of Grazing Regulations.

Done at the Navajo Agency on this TWENTY-SIXTH day of JANUARY, 1963

~~Sub~~-agency Superintendent
[20 F. R. 2895]

BEST COPY AVAILABLE

APPENDIX 2-2

DEFINITION: Dibé binaałtsoos ílíinii át'é

1. Dibé binaaltsoos hwee hólǫ́ǫgo ílį́įgo baanitsídzíkees łeh
2. Dibé binaaltsoos hwee ádingo éí ts'ídá t'áadoo binahjį' dibé shójoołt'eehída
3. Dibé binaaltsoos hwee yiltsosdóó índída t'áadoo hasti'í tsízdíkos
4. T'áá éí t'éiyá binahjį' dahwííníilt'ééh ła'

APPENDIX 2-3

DEFINITION: Bee k'ézhniidzį́įh

1. Áádóó náánáá díí dibé sizį́įgi aadę́ę́' hak'éida ła' haayighááhgo kodóó bee k'ézhniidzį́įh
2. Éí doodago diné shíká anilyeed nííigo haayighááhgo jó t'áá áko bá chojooł'į́įh
3. Éí doodago dibé ła' naanahashniih ach'ą́ shi'niiłhį́ ho'di'nííigo diné baajiłhééh

APPENDIX 2-4

DEFINITION: Dibé ach'ą́ dahasingóó choo'į́

1. Dibé ła' ach'ą́ shi'niiłhį́ nííigo bá chojooł'į́įh
2. Áłchíní ach'ą́ daaleehgo t'áá áko bá tsį́įh jizóós
3. Dibé ach'ą́ dahasingóó diné bee biká'anéejah

## APPENDIX 2-5

DEFINITION: T'áá dibé sizįįdóó lą'ágóó bee ák'ineiildzil

1. Dibé tádígishgo éí dahiistl'ǫ́ nánídlį́
2. Áádóó tázhdigishą́ą t'áá éí ła' hasht'e'nijiłjoł
3. Áko hast'e' nijiłjołyę́ę t'áá éí nááji tl'óóh ałdó'
4. Áko dahiistl'ónígíí níléí tánáá'da'digéeshjį' anáhálzhishgo lą'í bee joołbįįh
5. Áádóó dibé biyázhí t'áá ákónáánát'é nahaniih dóó ach'ą́ dahasingóoda
6. Áádóó ha'at'éegishįį ák'é ninázhdidoolyééłgooda baanitsídzikees

## APPENDIX 2-6

DEFINITION: T'áá éí t'éiyá binahjį' dahwiiníılt'ééh ła'

1. Dibé binaaltsoos dahyistsosígíí t'áá éí t'éiyá binahjį' shíni' niłdzil
2. Kojí naaldlooshii yą́ą shits'ą́ą' neeztsizgo t'áá ákódí ha'át'íishą' bee ák'ideesdził, ádin.
3. Níláhgóó naalyéhí báhooghanjį' hąąh hadaajilgo binahjį' yihah

## APPENDIX 2-6

DEFINITION: Ach'ą́ ho'niiłhééhgo

1. Áádóó ach'ą́ ho'niiłhééhgo t'áadoo ąąh ní'deeshłééł atsį' nahideeshnih hwiinídziní áłchíní bá tsįįhjizóós
2. Áko k'ad éí nihił béédahozingo atsį' kóníshéhígo doosohodoobéezhda da'ílį
3. Áko dibé hwee hólǫ́ǫgo éí t'áadoo nizhdilts'i'í t'áá'áko nidzilóosii' ałchíní bá tsįįhjizoos

## APPENDIX 2-7

DEFINITION: Dibé hwee hólǫ́ǫgo doo tsístł'a jigáahda

1. Dibé bee nihąąh hadaaz'áágóó nááda'ayiilyé
2. Dibé yázhí kinjį' nidahiilniih
3. Dibé bighaa' Kinjį' nidahiilniih
4. Dibé bighaa'ígíí dahiistł'óh nánídlį
5. Dibé nidahagháágóó bee ałka' aneiijah

## APPENDIX 2-7

DEFINITION: Dibé hwee hólǫ́ǫgo lą'ágóó bee nahojiłt'i'

1. Dibé tseebíí bináhahjį' yá'át'ééh, áko kojį' díkwíí shįį́ míil bee ájiił'įįh

2. Dibé binahjį' naalyéhé bá hooghanjį' hąąh hadaajilgo náhah łeh.

3. Dibéyázhí kinjį' dóó ach'ą́ dahasingóó nahaniih

4. Dibé tádígishgo ła' nahaniih, ła' éí dahiistł'ǫ́ nánídlį́

## APPENDIX 2-8

DEFINITION: Dibé t'éí binahjį' sha'áłchíní biyaa hooł'a'

1. Dibé t'éí binahjį' sha'áłchíní da'ííłta'

2. Dibé t'éí binahjį' sha'áłchíní da'ayą́

3. Dibé t'éí binahjį' sha'áłchíní bi'éé' dahólǫ́

4. Dibé t'éí binahjį' sha'áłchíní ák'idahalta'

## APPENDIX 2-9

1. Áko díí kojí jíhonaa'éí diné áyiilaa,éí asdzáán nádleehé

2. jó éí yił t'áá dí'ígo niininil, áko díí dibé jiní, łįį́' jiní, dine' jiní, ákohgo áts'é áyiilaa jiní.

3. éí t'áá át'é, béégashiida, háishįį́ doo áyiilaada, jó aadóóshįį índa nahat'á deezt'i' silįį́'.

## APPENDIX 2-10

1. dibé bá nitsídzíkeesgo niik'ehą́ą bik'ehgóó áhoot'įįh.

2. dibé iiná nilį́įnii át'é.

3. dibé wolyéii nimá át'é.

4. dibé bits'ą́ądóó háni' naat'i'

5. dibé t'áá shí bikéé' naashá.

## APPENDIX 2-11

1. yá'át'éehgo biyázhí dahodooleeł jinízingo dibé bá nitsídzíkees wolyé.
2. daneesk'ahdoo jinízingo dibé bá nitsídzíkees wolyé.

## APPENDIX 2-12

1. łįį' yá'át'éehgo íinísin.
2. łįį' hadzit'ih bíhooł'aah
3. náás tsídzookos, náásgóó halįį' baa nitsídzíkees óolyé.

## APPENDIX 2-13

DEFINITION: Diné bił ahídaneeldin

1. Diné bił k'é da'ahidii'ní
2. Diné yéego bił ahéé dahoniilzin
3. Diné bił ałká'anéiljah
4. Diné yá'át'ééhgo bił ahaa nitsídeikees
5. Diné bił ałk'idasidíníit'įį'

## APPENDIX 2-14

T'áá dahooghanígí át'éego, éí ááji baghan ha'níigo, bił ahéédahoniilzin dóó bił k'é da'ahidii'ni dóó áłká anídeiijah t'áá ha'át'éegida. Áko kót'éego la' éí bíhoneesdin. Áko níléí ła' kojį'go ajíínáago, éí éiyąąsha' éí haanízahgóó ooldah dóó haadashą' nízhahgóó k'ee'aan dínéesą́, t'óóshįį kót'é dooleeł náániá. Áko ídeiiniizingo éiyá jó t'áá ahéédahoniilzinígíí, t'áá ałk'ih dahsídíit'į'ígíí dóó k'é da'ahidii'nígíí, t'áá aaníí nahjį' kódanihijiléého, haa'ádah t'áá ahxąąh danihighango éí t'áá yá'át'ééh. Shí t'óó ákwíinisin.

## APPENDIX 2-15

Bilagáanaa kéyah daniizin dajiníigo ła' haadahidees'tą́, k'ad éí nikéyahígíí shaa diní'aahgo bee náás deesháál náádashiłní. T'áá Diné danilíinígíí t'éí nidaalnishdoo dajiníinígíí dahoyooch'íid. Łah nílééí łid yaat'i'go nida'anishídę́ę́' ch'í'iijeehgo nésh'į nít'ę́ę́' bilagáanaa t'éí aláahgo tóta'jį'go bił aná'iijeeh, diné éí t'áá díkwiíyee' naat'áanii néézjį'go hoł aná'iijeeh. Shí baa nitséskeesgo éí nihibéesoo yę́ę t'óó tł'óó'jį'go t'éiyá ahinidééh nisin. Shí sha'áłchíní éí k'ad da'ółta' da'ííłta'go bilagáanaa k'ad nidajilnishígóne' nidaalnish doo.

## APPENDIX 2-16

Ada'a'nil dóó ha'agéed ha'nínígíí éí t'óó nihikéyah bee bida'zhniiłchxǫ'. T'óó baa nitséskeesgo díí diné doo hazhó'ó da'ííłta'daaígíí t'éí t'áá ayahágo nahalyéhígíí áajį' ahiniííł. Díí shí sha'ałchíní éí yá'át'éehgo dóó nízaadgóó na'anishígíí índa. K'ad bilagáanaa t'éí naanish dayóta'ígíí éí yinidaalniishdoo nisin. Díí béesooígíí t'áá nihikéyah biih nánídééhdoo nisin. Díí kǫ́ǫ́ ha'agéed silįį'go éí tłóó'jį'go béesoo ch'íhinidééhdoo. Áádóó bilaagáanaa t'éiyá yee ak'idaaláadoo. Éí biniinaa shí éí doo t'áá k'ad nohgóó háánáada, háálá sha'áłchíní bá náás nitsékees.

## APPENDIX 2-17

T'áá díí kéyah nihaa dahideest'ánígíí bikáá'gi sha'áłchíní kééhat'íídoo nisin. Kéyahígíí éí t'áá holǫ́ǫgo ahool'áadoo, béesoo éí t'óó ádįįh. Sha'áłchíní ei t'áá kǫ́ǫ́ dabighan dóó t'áá kǫ́ǫ́ nidaalnish doo nisin. Ha'agéédjí éí doo bá nisinda. Háálá t'óó danihizh níí'aa'. T'áá diné t'éí lą'á nidaalnish doo dajinínée t'áadoo bida'jiilaada.

## APPENDIX '2-18

Lą'áda kodóó áłchíní danilínígíí níléí diné bikéyah tl'óó'jígo naanish nishodayoolt'eeh, áádóó díí áłchíní danilínígíí la't'ahdii díí diné bikéyah bikáá'gí kéyah bá ádaadin. Díí shí sha'áłchíní éí kǫ́ǫ́ kéyah bá hólǫ́. Díí kéyah bikáá' sínízínígíí kwe'é t'áá át'é. Ta'neezahnii t'éí bikéyah. Háálá shimásání nít'ę́ę́' bits'ą́ą́dę́ę́' shimá baadeet'ą́ dóó shí shaa náádeet'ą́. Áko háida díí kéyah biih jidoonéłígíí éí dooda, áádóó bii' nida' jidoogołígíí ałdó' dooda. T'óó dahozhdoołchxǫǫł. Kwé'é ła' ada'jiznil nít'ę́ę́' ayóogo niłchxon. Kwe'e ła' ada'jiznil nít'ę́ę́' ayóogo niłchxongo tóh háána'. T'áadoo biniyéhégóó ałdó' t'óó ahayóí atiin ádajiilaa. Díí biniinaa doo háida, t'áá diné jílį́ nidi doo ła' yah'azhdoonéełda. Díí ta'neezahnii t'éí bikéyah.

## APPENDIX 2-19

Tóhę́ę altsoh nihits'ą́ą́' adoodįįł k'ad ei tó t'áá ałch'įįdí t'ah yidziih nidi ch'il doo hazhó'ó nídadínı́séeda. Niinah nizaadígi łid yaat'i'ígíí diné tł'oh yits'ą́ą́' íisdįįdgo áko éí ch'ilyę́ę ádin. Tóh dahsiyínígíí nidi ayóogo niłchxon. Díí shikéyahígíí éí t'áá ɲiléidę́ę́' danicheii nít'ę́ę bits'ą́ą́dę́ę́'náás yilts'iłgo binahjį' t'áá áyisíí íliinii át'éego baanitséskees. Díí kǫ́ǫ́ na'asgeedgo ch'ilígíí doo nídadínooséełda, łeejinígíí éí ásdįįdoo ałtsoh haageedgo tó nihí nihilįį' bá chodeii'įnáą éí ásdįįdoo.

117

## Appendix 4-1

1. Da' łeejin hadajigédígíísh t'áá aaníí Kéyah nihídajókeed? (Will the company make demand?)

1. Áko t'áá daats'í nihik'eh hodoleeł (It appears doubtful that anything can be accomplished by our refusal)
2. Díí naanish yii'aahgi (This work will surely begin)
3. T'áá bita'ígi ádahooníił, dibéda bik'ih ch'ída'iilyeed, ákódzaago shą' ha'át'iishą' nihich'į' ni'dooleeł (If there is damage done to our homes or livestock, then who will pay us for the damages?)
4. T'áá'aaníí ákonééhgo (definitely this will happen)

2. Nihi hanii dooádadii'níida (we too will make demands)

3. Da' kéyah ła' nihá nídahozhdidoo'ááł (will a definite place be set aside?)

1. ts'ídá átsé éiyá kéyah ła' nihá nídahozhdidoo'ááł (The first thing we want them to do is set land aside for us)
2. Ako ts'ídá átsé nihich'į' éédahozhdoosįįłígii ts'ídá haahoot'éhígi éí kódanihołééh (Thus, the first thing, (to us) which should be known is exactly what place we will move to)
3. áádóó índa díí nihaa nida'diyoołnihígíí baa yádeiilti' dooleeł (Then, later, this particular business (of the sheep permit) will be discussed)
4. Jó t'áá haa'áda t'áá nihił yá'ádahoot'éhígi danihidohni (You see, "you can relocate to any favorable locations," you say thus to us) Shí díí k'ad t'áá haa'ída shił yá'ahoot'ééh díiniidgo (If I pick a place (location), and ask for that land, there) . . .

4A. á di bikéyah ílínígíí "dooda ei shí shikéyah didooniił (the occupant of the land will say "No, this is my land.")

4B. Tóta'jį' nidi bitsį' yishtłizhii doo deiinízinda (I could move toward Farmington, but they are prejudice against the Indian)

118

4. Da' ákónéehgoósh t'áá ahxą́ąh haa'áda kodanihizhdoolíił? (Will we be relocated together?)

Ákónéédhgo t'áá ahxą́ąh haa'áda kódanihizhdoołíił (We want to be relocated together some place)

1. t'áá'aaníí ákónée hgo t'áá ahxą́ąh haa'áda kódanihizhdoołíił (It is definite that we want to be relocated together some place)
2. nihí díí shikwá'áásiní éí éí doo yóó' ada'ahididiįt'ą́ą́łda (We (who are relatives) are not about to separate)
3. ts'ídá k'é wolyéii t'éiyá bee nihidziil (In this bond of close relative denotata lies our strength)
4. ts'ídá t'áá éí t'éiyá bee náás ahiijih (This (strength) is the very source of our progressing together)
5. áko danihołééhgo éí t'áá ahíighahgi haa'ída nihá dahwiidooł'aał (In case you relocate us, we want to be relocated together, wherever it will be)
6. shidó' t'áá akéé' yishnééł dooleeł (I would like to relocate with them at the same time)

5. Da' t'áá áyídíjį'ísh nahgóó kónihi'didoolníił (Will we relocate close by?)

T'áá ą́yídíjį' nahgóó konihi'didoolníił (Close by,we want to be relocated)

1. T'áá haz'ą́ągo, díí ádíshnínígi át'éego, ááji hooghan ániit'aahgo, jó éí éí t'áá yiltsos (If the case is like mine, of moving a short distance, and with a place available, I believe I can keep my sheep permit.

6. Da' doo na'ahiníitł'ahgóó danihghandoo (We will relocate out of the of the way of the mine?)

Doo na'ahiníitł'ahgóó danihghandoo (will relocate out of the way of the mine)

1. łidígíí doo yá'áchxǫ́ǫda t'aa bits'ą́ądę́ę' kahodeezt'i' (conditions may be hazardous to our health)

2. Nihimásáníyęę dóó daninicheiiyęę t'áá kǫ́ǫ́ naashjool (our grandmothers and grandfathers are buried around here (on their land). Ts'ídaásh na'aldeehgi. Náhodidoot'ááł (The place set aside (for their graves) should not be in the way of anybody).
3. Nahonitł'agi náhodit'ą́ągo biní'doolt'ih (The place set aside should be an isolated place and it should be fenced in).
4. Jó bilagáanaa éí ákódant'é (You see, this is the way the Anglos have been doing theirs).

7. Díí kéyahígiiísh nihá hasht'éé dahozhdoolííł (Will the land be replaced when the mining is over?)

Ałtsoh nida'asgeed dóó kéyahígii nihá hasht'éé dahozhdoolííł (When the mining is over we want the land reclaimed)

1. Ádaaníigo éí náhodidoołkǫǫł (We heard that the company will level the land back to the original shape). Éí ákóhá'nínígíí éí shił yá'át'ééh (That statement is acceptable with me).
2. T'áá haz'ą́ągo, díí ádíshnínígi át'éego áajį' hooghan áhniná t'aahgo jó ákót'éego éí t'áá yiltsosdoo áádóó éí choináánéil'į doo (If the case is like mine, of moving a short distance, I believe I can keep my sheep permit and in the future we can use it again.

8. Dibé binaaltsoosísh éí t'áá nideiltsoos (Will we keep our sheep permit?)

Dibé Binaaltsoos

1. Dibé binaaltsoos hwee holǫ́ǫgo ílįįgo baanitsídzíkees łeh (When one has a sheep permit, he will consider it the most valuable possession)
2. Dibé binaaltsoos haa yiltsosdóó índída t'áadoo hast'i'í tsízdíkos (When one receives a sheep permit, he or she begins thinking ahead without hesitation)
3. t'áá éí t'éiyá binahjį' dahwiíníiilt'ééh ła' (The sheep permit is the only source of making a living for some of us)
4. Dibé binaaltsoos hwee ádingo ts'ídá t'áadoo binahjį' dibe shójooł t'eehída (When one has no sheep permit, there is no way for him to acquire any livestock)

5. Dibé binaaltsoosígíí binahjį' díí kéyah yíníitą' (Sheep permit gives one the right to have land)
6. Dibé binaaltsoosígíí binahjį' nihizaad ílį́ (The sheep permit gives one the right of say-so at the Chapter House).
7. Dibé binaaltsoosígíí binahjį' nihighan si'ą́ (Sheep permit gives one the right to build a house)
8. Dibé binaaltsoos dahyistsosígíí t'áá éí t'éiyá binahjį' shíni' niłdzil (Having a sheep permit is the only source of peace of mind for me)

9. Deez'áhígı éí nitl'iz ninánił nít'ę́ę́', ákwe'éesh dahaz'ą́ągo ádazhdoolíił (Will the holy places where the precious stones were placed be set aside?)
1. Níléí deez'áhigíí ákwe'é éí nitł'iz ninánił nít'ę́ę́' áádóó niłtsą́ bíká nináhághaah nít'ę́ę́' (That Mesa over there used to be one of the holy places where precious stones were placed)
2. áádóó ná'ookąąh néit'aahgo, éí náhodínidááhgo ákónál'įįh (And then that was where supplications were made in the event of hopeless drought)
3. Áko ákwe'é éí t'áá dahaz'aago ádazhdoolíił (Thus, we want them to preserve the area for us)
4. Ákó nidi t'áadoo áadi baa'ígédí daats'í ałtso nahasdzáán bii' ná'iisdee'doo ałdó' (Thus, before the company comes to this holy place, the traditional people will probably be gone)
5. íídą́ą' éí hastói lą'ígo baa ákoniizį́į' nidahałáii t'óó ahayói (At the time of my awareness (i.e. birth), there were still many older Navajo men). Aadę́ę' hóshdę́ę' hastói nidahaláhą́ą t'óó ahayói bi'oh silį́į' (since then, many of those medicine men have passed on)
6. K'ad áko t'áá ayahágo hadadzidzih áko (as of now the spoken words are very weak, compared to then)
7. áko nidi shí'éí t'áá ááji nisin, t'áá tádídíín dahyistsosjí (In spite of the present situation, I will continue my corn pollen religion)

10A. T'áá danighangóó nihiłį́į́' ła' hóne' naazhjéé'go daats'í nihá ádazhdooliíił (Can we fence in sheep here at home?)

1. Dibé t'áá kǫ́ǫ́ biná'ázt'i'go ádeelnééhgo éí bich'iiyą'ígíí bee nihíká aníjíjah doo (If we can fence in some sheep or cattle here at home we would like the Company to help us with the feed).
2. Doo t'áá aheelt'éego nitsídeekeesda la'shį́į́ áadi shijéé'go nihił yá'ádaat'ééh ła éí t'áá kǫ́ǫ́ nihiná nidaakaigo t'éí nihił yá'ádaat'ééh (We do not think alike; maybe some would like their livestock to be fenced in the Tribal Fencing and others to have it fenced in at home)
3. Díí dibé hóne' shijéé'go nihá ádajiléého éí ashtładiingo yá'át'ééh áko éí t'áá bee jéhodiltsaa (If we fence some of our sheep at home we would like to fence in about fifty, because with that number we will feel more secure)

10B.

1. K'ad éí nihi béégashii níléíjį́ Tribe inída'ast'i'go ááji hóne' naakai t'óó rent ádeil'į́į́go (Now our cattle are fenced in the Navajo Tribal fencing; we pay for the rent).
2. Náhidizíídgo béégashii t'ááła'á sizínígíí t'áálá'á dóó bi'aan naakidootl'izh nihaanídahabį́į́h (Tne rent is one dollar and twenty cents per head per month).
3. Dibé dóó łį́į́' dóó béégashii háágóólá kodadiilníílá, ts'idá t'áadoo kódaalne'jį'da (Our sheep, horses, and cattle, where are we going to put them? There is really no place for us to put them (now))

11. Doo bee ádaanitsídeekeesda (we do not think for ourselves (as a collective))

## APPENDIX 4-2

### Ha'agééd bits'ą́ądóó diné tíbi'dilnééh

I. Diné t'áá bił dashighanígi át'éego.

A. Diné bił ahídaneeldin

1. Diné bił k'é da'ahidii'ní

2. Diné bił ahéédahonisin

3. Diné bił áłká'anáshjah

4. Diné bił yá'át'ééhgo ahaanitsídeekees

5. Diné bił ałk'ih dahsidíníit'įį'

B. T'áá danihighanígi át'éego bídaneeldin

II. Dibé binaaltsoos ílįįnii át'éego dahyistsos

A. Dibé binaaltsoos binahjį' dibé sheehólǫ́

1. Dibé binahjį' ahidinílnáago da'ahíiníitą'

a. Dibé bee shiwá'áásiní bich'į' K'é nisdzin

b. Dibé ach'ą́h dahasingóó choosh'į́

i. Diné ach'ą́h shi'niiłhxį́ níigo baayishtééh

ii. Sha'áłchíní ach'ą́h danízingo bá choosh'įįh

iii. Diné ła' ach'ą́h shi'niiłhxį́ níigo shaa nayiiłnih

c. Dibé bee ahidiníłnáago áłká anéejah

2. Dibé bee náás ahiijih

3. Dibé bee lą'ágóó dahwíiníiłt'ééh

        a. Dibé shee hólǫ́nígíí binahjį' dootsístł'ah yisháada
        b. Dibé bee shąąh hádaaz'áagóó niná'iishdlééh
        c. Dibé yázhí ałdó' kinjį' shaaninóhánih
        d. Dibé bighaa'dó' kinjį' shaaninóhánih
        e. Dibé bighaa'ígíí ałdó' dahyiistł'óh nánídlįįgo kinjį' ninóháshnih
    4. Dibé shee hólónígíí bee sha'álchíní biyaa hooł'a'
        a. Dibé binahjį' sha'áłchíní da'íiłta'
        b. Dibé binahjį' sha'áłchíní ba'astso'
        c. Dibé binahjį' sha'áłchíní éé' sitįįgo íínísin
        d. Dibé binahjį' sha'áłchíní nanishtin
B. Dibé binaaltsoos binahjį' Kéyah sheehólǫ́
    1. Dibé binaaltsoos binahjį' shikéyah shá beehaz'ą́
    2. Dibé binaaltsoos binahjį' hooghan séł'ą́ągo shá bee haz'ą́
C. Dibé binaaltsoos binahjį' áłah nída'adleehgóó shizaad ílį́

## APPENDIX 4-3

1. Áadi éí t'áá aanii ákót'éego haasdzíí' nít'ę́ę́' áádóó banitsínáasékéez áádóó kodi sha'áłchíní bił baanideiit'į́, kwe'é sha'áłchíní shaanát'ashgo

2. Díí ła' nihimásáníyę́ę dóó nihicheiiyę́ę t'áá akǫ́ǫ́ naashjool dajínigíí éí t'óó binighé náhodiit'ą́ągo shą'

3. Ts'ídáásh na'aldeehgi náhodidoot'ááł; nahonitł'aaígi náhodidoot'ááłgo bini'doolt'ih.

4. Jó bilagáanaa éí ákódaat'é.

5. Áko díí łeejhin ałtsoh hádajizgeedgo nizhónígo dilkǫǫhgo nihá hasht'e ninádadzisdziidgo éí nizhóní.

6. Áádóó bich'į' na'nise'ígíí nihá bitah ádajiilaago.

7. Áádoo nihá k'éé dazhdi'doodlééł.

8. Łahgóoda nída'azt'i'go tó bighi' hadaazlį́įgo éí łį́į'da yah anídaaniłdoo binighé

10. T'áála' aanii niléídę́ę' łeezhígíí náhidéét'ą́ągo doo néidootsoda dajiníi, ndi t'áá neitsoh.

11. Nahałtingo t'áá néidootsoh

12. Niláhdę́ę' hodahdę́ę'ígíí t'áá yee joozha'go t'áá ha'át'íishíí bich'i na'nit'a' shíí t'áá biłnahałtingo, k'os diłhił bił ni' nikééshígishígíí bee náhwiidootsoh.

13. Ako ts'ída ch'ééh baanitséskees, yéego, áko t'áá daats'í nihik'eh hodooleeł.

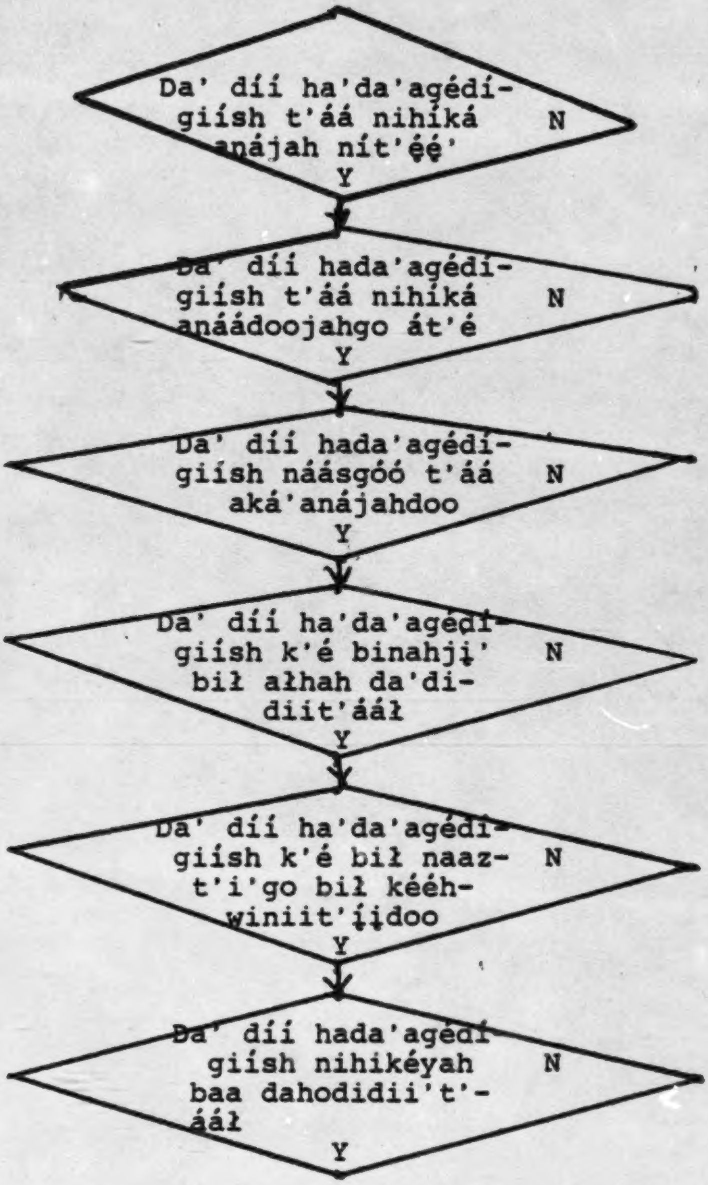
## APPENDIX 4-4

Áko díí shí kǫ́ǫ́ nidaalníshígíí nideeídíshkidgo naaltsoos binahjį' shich'į' íishjáán ádayiilaago áko łeejinígíí doo nízaadi hólǫ́ǫgóó bikáá'. Aadę́ę' ákót'éego éí k'ad díkwíidishį́į bininá'ídéélkid, áko díí aadę́ę' t'áá ákó t'éego ahool'áh. Kwe'é t'éiyá t'áá hóyahgo jiní, nigháagi, naadiin dóó bi'aan adées'eez jiní. Ákohgo íídéet'ą́ą' jiní łeezh, ákonidi séí, tsé ádin. Ałtso na'asgeedgo doo shį́į t'áá aghisíí dahoodeezhahdadoo kwe'é, jó doo nízaadi hólǫ́ǫda, éíshdó' níláhjí éí nizaadi hólǫ́ dóó t'áá báhadzoo tsé naaz'á. Díí kǫ́ǫ́ bíná'ídéélkidgo, ádin tsé jiní haashį́į dahoot'éhégóó t'éiyá tsé hadaaz'á jiní.

APPENDIX 4-5

1. Díí łeejin hadajigédígíí á'áhwiinít'ínígíí hwó hats'ą́ądę́ę́' hwee dahólǫ́ǫdoo
2. Doo ch'ééh ádahodii'níidadoo háálá kéyah haadadinii't'aah
3. Jó díí łah kwe'é El Paso nizhónígo łeejin nihá yik'i deiizgeed ábidii'niidgo
4. Díí El Paso ayóigo bá ádahwiinít'íinígo át'é hólah nihitah nínáago daats'í doo ákódaat'éedadoo
5. Díí El Paso t'áá'áyisíí áká adoojahgo át'é nisin
6. K'é bił naazt'i'go

## APPENDIX 4-6


Da' díí ha'da'agédígiísh t'áá nihiká anájah nít'ę́ę́'
N
Y
Da' díí hada'agédígiísh t'áá nihiká anáádoojahgo át'é
N
Y
Da' díí hada'agédígiísh náásgóó t'áá aká'anájahdoo
N
Y
Da' díí ha'da'agédígiísh k'é binahjį' bił ałhah da'didiit'ááł
N
Y
Da' díí ha'da'agédígiísh k'é bił naazt'i'go bił kééhwiniit'įįdoo
N
Y
Da' díí hada'agédígiísh nihikéyah baa dahodidii't'ááł
N
Y

## APPENDIX 4-7

1. T'ÁÁSH
AANÍÍ ŁEEJIN
HAAGÉÉD DOO?

2. T'ÁÁSH
AANÍÍ NOHGÓÓ
HADAHIDOONÉÉŁ
DANIHIDI'NÍ?

3. T'ÁÁSH
AANÍÍ DIBÉ BINAALTSOOS [illegible]
ANÍDAHIDOONIŁ
DANIHI'IO'NÍ?

4. DÍÍ
KÓNIHI'DI'NÍNÍGĮĮSH T'ÁÁ BEE
ÁDAANITSÍDEIIKEES?

5. DOODA
DADII'NÍGÍÍ DOO
NIHIK'EH HAZLĮĮ'GÓÓ ÉÍSH BIK'EHGO
DOO

NADA'AGÉDÍGÍÍ NIHIKÉYAH BAA
DADIDIIT'ÁÁŁGO K'É
BIŁ NAAZT'I'GO KÉÉHONIIT'ĮĮ DOO

DOO BEE ÁDAANITSÍDEIIKEESDA
TS'ÍDÁ T'ÁÁ
DOODA DADII'NÍIGO NICHOO'Į́
ÁDAASDĮĮDJĮ'
ÉÍ YÁ'ÁT'ÉÉH
DOO
BIINIINAA YAH
ADAHNIHIDIISNIL
NIDI T'ÁÁ ÁKO
ŁA' DINÉ BIKÉYAH NINÁDEESEIST'ĄĄGO ÁDAADZAAYĘĘGI DOO ÁDADII'NÍÍŁDA

DA'ÍÍNIŁTA'ÍGÍÍSH
DINAHJĮ' T'ÁÁ BIDZIILGO NÁÁS NITSÍNÍKESS

HA'AGÉDÍGÍÍ DOO BIK'ĮJĮ' ÍDLĮĮ

DA'T'ÁÁ ÍLĮĮGO
NA'ANISHÍGÍÍSH
NÁHÓLǪ?

HA'AGÉDÍGÍÍ DOO BIK'ĮJĮ' ÍDLĮĮ

DA' NA'ÁŁCHÍNÍÍSH
BAA NITSÍNIKEES

HA'AGÉDÍGÍÍ DOO BIK'ĮJĮ' ÍDLĮĮ

DA' DIBÉÉSH T'ÁÁ
LĄ'Á NABIJAA'
ÁLYAA?

HA'AGÉDÍGÍÍ DOO BIK'ĮJĮ' ÍDLĮĮ

DA' DIBÉ BINAALTSOOÍSH
NEEHÓLǪ ÉÍ DOODAGO
T'ÁÁ NAADOOLTOS

HA'AGÉDÍGÍÍ DOO BIK'ĮJĮ' ÍDLĮĮ

DA' NIK'ÉÍSH T'ÁÁ
BAA NITSÍNÍKEES?

HA'AGÉDÍGÍÍ DOO BIK'ĮJĮ' ÍDLĮĮ

DINÉ BIKWÁ'ÁÁSINÍ YÁ
YIZĮ'GO YÁ NÁÁS HODEE'Ą́

## APPENDIX 5-1

DEFINITION: Níléí dooda danízinígíí

1. t'ááłáhádóó daniidlį́
2. t'ááłáhádóó daniidlínígíí
3. nihimásáníyą́ą dóó danihicheyę́ę t'áá kǫ́ǫ́ naashjool daaní
4. Diné ła' ákó dabi'di'níigo nohgóó adahaaznánée doo yá'áshǫ́ǫda lá daaní
5. Łidígíí doo yá'áshǫ́ǫda t'áá bit'są́ądę́ę' kahodeezt'i' lá daani

## APPENDIX 5-2

DEFINITION: Bii' áłahná'adleehi nahgóó adoot'ááł daanígíí

1. ła'ádaaníigo, jó níláahdi dahnáánáákahígíí ádaaníigo éí, t'áánááná łahdi t'áá háida bił náashíghan doo
2. T'áá łá'ígíí t'éiyá bił haghango ádazhdiłaah ła' daaní

## APPENDIX 5-3

DEFINITION: T'áá bitá'gi nidadinidle'ígíí

1. Bii' áłah ná'ádleehí łahgo ninádoot'áałgi t'ahdii t'óó bił daahaadaígíí
2. Bii' áłah ná'ádleehí nahgóó hait'aahígíí doo bił yá'ádaat'ééhda nít'ę́ę́' k'ad éí t'áá bił yá'ádaat'ééh

APPENDIX 5-4

DEFINITION: Hazhó'ógo, hazhó'ó, bééhózinígo hazho'o t'aa'at'e

1. ła' t'aháloo daanínígíí

2. łahgo ánínáádooníiłgoshįį át'é

3. Dibé binaaltsoosígíí doo shighah dooltsosda daanínígíí

4. Díí kwe'é díí dibé binaaltsoosígíí doo shighah dooltsosda nisin

5. t'áá háadishįį ákónééh

6. Jó áko níláhdęę' bilagáanaa doo nihá bił bééhózinda

APPENDIX 5-5

DEFINITION: Doo ałk'i'diitįįhígíí

1. t,óó saad ałch'į' anídahii'nił

2. doo hazhó'ó t'áá át'é bééhoozįįhígíí biniiinaa nihí ałdó' kodi t'óó saad ałch'į' anídahii'nił

APPENDIX 5-6

Shí ałdó' shił yá'át'éeh akót'é ha'nínígíí, jó research ha'nínígíí. Jó hazhó'ó naalkaahgo, áko níléeh bii' áłah ná'ádleehí nahgóó adoot' danízinígíí dóó nílę́íh dooda danízinígíí áádóó ła' t'aháloo daanígii hazhó'ó díí k'ad baahwiinít'ínígi át'éego, hazhó'ógo, hazhó'o bééhózingo, hazhó'ó t'áá'át'é nihił bééhozingo daanínígíí áádóó t'áá bita'gi nidadinidle'ígíí ałdó'. Áko t'áála' aanii táa'gola' dahyiikah. Áko naalkaahgo níléí yee hadahadziihígíí ha'át'íí biniinaa éí ákót'éego táa'go dah'ooldah dóó ádeinízinígíí t'áá'aaníí t'áá'ałtsohdę́ę́' hazhó'ó bá dasidiits'ą́ą'go, dóó ałk'i'diitą́ągo, ááha'nínígi át'éego dóó níláhdę́ę́' binahat'áhígíí t'áá'át'é nizhónígo bik'i [illegible] d'viitą́ągo dóó ałk'i'diitą́ągoshįį́ ałdó' shįį́ t'áá łahgo ánínáádooníiłgoshįį́ át'é. Áko díí doo ałki'diitįįhígíí biniinaago éí t'óó kót'éego dahyiikah nahalin.

## BIBLIOGRAPHY

Aberle, D.F., 1978, "The Lessons of Navajo Livestock Reduction," m.s. University of British Columbia, Vancouver, B.C. Canada

Barry, T., 1979, "Bury My Lungs at Red Rock," The Progressive, February 1979: 25-28

Benson, Michael, 1976, Navajo Taxation, Office of Program Development, The Navajo Nation, Window Rock, Arizona

Bumgarten, Pia, forthcoming, "Patterns of Navajo Stock Raising: An Ethnography of Navajo Cattlemen," m.s. Northwestern University, Evanston, Illinois.

Festinger, L, 1956, A Theory of Cognitive Dissonance. Row, Peterson & Co.

insterbusch, K., 1977, "The Potential Role of Impact Assessments in Instituting Public Policies," in Finsterbusch & Wolf (ed) Methodology of Social Impact Assessment, Stroudsburg, PA, Dowden, Hutchinson and Ross, Incorporated.

Gamble, D.J., 1978, "The Berger Inquiry: An Impact Assessment," Science, 199: 946-952.

Garrison, E.R. & G.M. Schoepfle, 1977, "Attitudes of Navajo Students Toward Teachers and Classes," Paper presented at the Joint Meetings of the Society for Applied Anthropology and the Southwest Anthropological Association, San Diego, CA.

Gladwin, C.H., 1978, "Decision Making Across Diverse Agro-Climatic, Socio-Economic Zones," Paper presented at the Annual Meetings of the American Anthropological Association, Los Angeles, California

Gladwin H., 1975, "Looking for an Aggregate Additive Model in Data from a Hierarchical Decision Process," in Formal Methods in Economic Anthropology. Stuart Plattner (ed), Special Publication #4, Washington, D.C., American Anthropological Association.

Granovetter, M., 1978, "Threshold Models of Collective Behavior," American Journal of Sociology, 83:1420-1443.

Henderson, E.B., and J.E. Levy, 1975, "Survey of Navajo Community Studies," Lake Powell Research Project Bulletin #6, University of California, Los Angeles, National Science Foundation.

Jacoby, H., 1973, *The Bureaucratization of the World*, Berkeley, University of California Press.

Kimball, S.T. & J.H. Provinse, 1942, "Navajo Social Organization in Land Use Planning," *Applied Anthropology*, 18-25.

Kneese, A.V., 1977, *Environment and Economics*, University of of New Mexico Press.

Ladd, R., 1957, *The Structure of a Moral Code*, Cambridge: Harvard University Press.

Lamphere, L., 1977, *To Run After Them: Cultural and Social Bases of Co-Operation in a Navajo Community*. Tucson, University of of Arizona Press.

Lazarfeld, P.F., 1966, "Concept Formation and Measurement in the Behavioral Sciences: Some Historical Observations." in G.J. Direnzo (ed) *Concepts, Theory and Explanation in the Behavioral Sciences*. New York, Rnadom House.

Miller, G.A., E. Galanter, and K.H. Pribram, 1963, *Plans and the Structure of Behavior*, New York, Henry Yolt and Co.

Morgan, R.T., 1978, "Navajo Livestock in Transition," m.s. Navajo Community College, Shiprock Campus.

Nagel, T.J., L978, "Operating a Major Utility Today: The Power Industry's Development, Its Current Problems, and Possible Future Trends," *Science*, 201: 985-993.

Pelto, P.J., 1973, *The Snowmobile Revolution: Technology and Social Change in the Arctic*. Menlo Park, CA, Cummings Publishing Company

Quinn, N., 1977, "Do Mfantse Fish Sellers Estimate Probabilities in their Heads?" m.s. Duke University.

Natwig, Eric, 1976, *Projections of Employment Effects of Major Economic Developments on the Navajo Nation, 1975-1990*. Office of Program Development, the Navajo Nation, Window Rock, Arizona.

*The Navajo Nation Educational Hearings*, Navajo Division of Education, the Navajo Nation, Window Rock, Arizona. August 1977.

Sasaki, T., 1960, *Fruitland, New Mexico: A Navajo Community in Transition*, Ithaca: Cornell University Press.

Scudder, T., 973, "Summary: Resettlement," in Ackerman, White and Worthington (ed), *Manmade Lakes: Their Problems and Environmental Effects*. Geophysical Monograph Series #17, American Geophysical Union, Washington, D.C.

Spradley, J.P. & D.W. McCurdy, 1972, The Cultural Experience: Ethnography in Complex Society, Chicago, Science Research Associates, Inc.

Topper, M.D., 1972, "The Ethnography of the Navajo Day," Ph.D. Dissertation, Northwestern University.

Tversky, A., & D. Kahneman, 1974, "Judgement Under Uncertainty: Heuristics and Biases," Science, 185: 1124-1131.

Watkins, G.A., 1977, "Development of a Social Impact Assessment," in Finsterbusch & Wolf (ed) Methodology of Social Impact Assessment, Stroudsburg, PA, Dowden, Hutchinson & Ross, Inc.

Werner, O., & K.Y. Begishe, 1968, "Styles of Learning: Evidence from the Navajo," m.s. Northwestern University, Evanston, Illinois.

Werner, O. & G.M. Schoepfle, m.s. "Handbook of Ethnoscience Ethnographies and Encyclopedias," Navajo Division of Education, Návajo Tribe.

Witherspoon, G., 1975, Navajo Kinship and Marriage, Chicago, The University of Chicago Press.

Witherspoon, G., 1977, Art and Language in the Navajo Universe, Ann Arbor, University of Michigan Press.